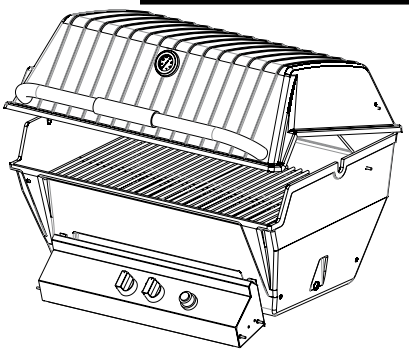
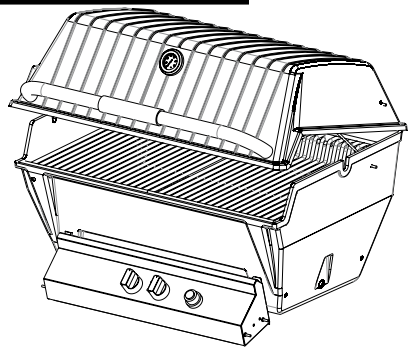
BROILMASTER®
PREMIUM GRILLS



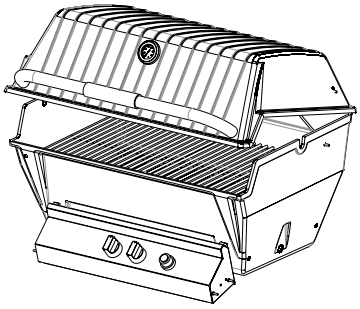
MODELS

H3X-2	**H3PK1N-3**
H3XN-2	**H3PK2N-2**
H3PK1-3	**H3PK3N-2**



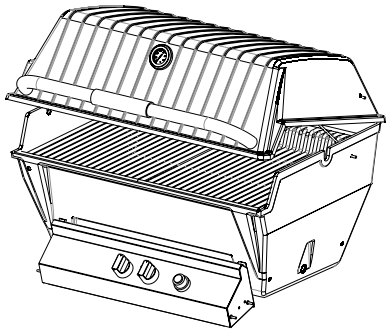
MODELS

P3X-2	**P3XN-2**
P3SX-2	**P3SXN-2**
P3XF-2	**P3XFN-2**



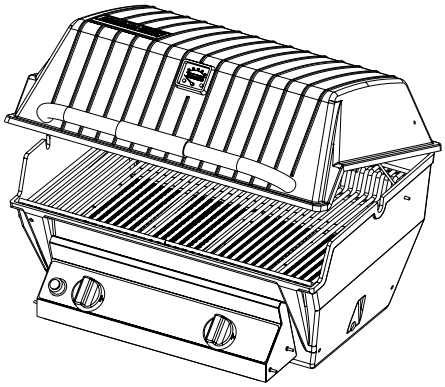
MODELS

H4X-2
H4XN-2
H4PK-2 Series



MODELS

P4X-2	**P4XN-2**
P4XF-2	**P4XFN-2**



MODELS

R3-1	**R3N-1**
R3B-1	**R3BN-1**

GAS-FIRED
c UL us
LISTED

IMPORTANT

This manual should be read thoroughly by the person installing the grill and all persons who will use and maintain the grill. The installer should be sure the manual is left in the possession of the user. The user should retain this manual for future reference when using or cleaning the grill and to properly identify any repair parts that may be required.

⚠ WARNING

Reference this manual for proper installation and maintenance instructions. Improper installation, adjustment, alteration, service or maintenance can cause personal injury or property damage. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

⚠ DANGER: FOR YOUR SAFETY

IF YOU SMELL GAS:

1. **Shut off gas to the appliance.**
2. **Extinguish any open flame.**
3. **Open the grill lid.**
4. **If odor continues, keep away from the appliance and immediately call your gas supplier or your fire department.**

⚠ WARNING: FOR YOUR SAFETY

1. **Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.**
2. **An LP cylinder not connected for use shall not be stored in the vicinity of this or any other appliance.**

⚠ CAUTION:

Parts may have sharp edges. Wear leather work gloves and handle parts carefully during the unpacking, assembly and installation.

⚠ WARNING

Broilmaster® Gas Grills must ONLY use propane cylinders equipped with an Overfill Protection Device (OPD). Use only a reputable propane dealer when exchanging or filling cylinders. An overfilled or improperly filled propane cylinder can be dangerous.

Congratulations!

Welcome to the beauty, durability, and prestige of a Premium Gas Grill by Broilmaster®. With award-winning excellence built into every feature and durability that surpasses other Premium gas grills, Broilmaster has manufactured the ultimate gas grill for discriminating outdoor chefs for over 30 years.

At Broilmaster, we continually strive to enhance the performance and quality of our products for your grilling enjoyment. Every effort will be made to ensure that Broilmaster continues to be your choice as the Premium grill of the future.

Whether you are at the lake or in the privacy of your own backyard, the Broilmaster® Premium Gas Grill performs far beyond the ordinary and is designed to provide your family with years of outdoor cooking pleasure.

Thank You!

Broilmaster® is a registered trademark of

Empire Comfort Systems, Inc.
918 Freeburg Ave.
Belleville, Illinois 62220
Telephone 800-851-3153

TABLE OF CONTENTS

Congratulations!

You have chosen the finest grill for your outdoor cooking pleasure. Please take time to read this entire manual before assembling your Premium Broilmaster® gas grill.

MASTER PARTS DISTRIBUTOR LIST 5
HOW TO ORDER REPAIR PARTS 5
P3X SERIES PARTS DIAGRAM 6
P3X SERIES PARTS LIST 7
P4X SERIES PARTS DIAGRAM 8
P4X SERIES PARTS LIST 9
H3X SERIES PARTS DIAGRAM 10
H3X SERIES PARTS LIST 11
H4X SERIES PARTS DIAGRAM 12
H4X SERIES PARTS LIST 13
R3 SERIES PARTS DIAGRAM 14
R3 SERIES PARTS LIST 15
GRILL ASSEMBLY 16
WARRANTY TERMS 16-17
PROPANE GAS GRILLS 18-20
NATURAL GAS GRILLS 21

OWNER'S MANUAL FOR P AND H SERIES GRILLS 22-32
HARDWARE PACK - H3, H4 23
HARDWARE PACK - P3, P4 24
GRILL ASSEMBLY 25-29
OPERATION - PROPANE & NATURAL GAS GRILLS 30
OPERATION 30
MAINTENANCE 31
TROUBLESHOOTING 32

OWNER'S MANUAL FOR R SERIES GRILLS 33-47
HARDWARE PACK 34
SAFETY PRECAUTIONS 35
GRILL ASSEMBLY 36-39
GAS CONVERSION TO NATURAL GAS 40
INFRARED COOKING 41
INFRARED COOKING SAMPLE TIMES 42
OPERATION - PROPANE & NATURAL GAS GRILLS 43-44
BLUE FLAME BURNER MAINTENANCE 45
INFRARED BURNER MAINTENANCE 46
TROUBLESHOOTING 47

MASTER PARTS DISTRIBUTOR LIST

To Order Parts Under Warranty, please contact your local Empire dealer. See the dealer locator at www.empirecomfort.com. To provide warranty service, your dealer will need your name and address, purchase date and serial number, (located on control panel heat shield) and the nature of the problem with the unit.
To Order Parts After the Warranty Period, please contact your dealer or one of the Master Parts Distributors listed below. This list changes from time to time. For the current list, please click on the Master Parts button at www.empirecomfort.com. Please note: Master Parts Distributors are independent businesses that stock the most commonly ordered Original Equipment repair parts for Heaters, Grills, and Fireplaces manufactured by Empire Comfort Systems Inc.

Dey Distributing
1401 Willow Lake Boulevard
Vadnais Heights, MN 55101

Phone: 651-490-9191
Toll Free: 800-397-1339
Website: www.deydistributing.com
Parts: Heater, Hearth and Grills

Victor Division of F. W. Webb Company
200 Locust Street
Hartford, CT 06114

Phone: 860-722-2433
Toll Free: 800-243-9360
Fax: 860-293-0479
Toll Free Fax: 800-274-2004
Websites: www.fwwebb.com & www.victormfg.com
Parts: Heater, Hearth and Grills

East Coast Energy Products
10 East Route 36
West Long Branch, NJ 07764

Phone: 732-870-8809
Toll Free: 800-755-8809
Fax: 732-870-8811
Website: www.eastcoastenergy.com
Parts: Heater, Hearth and Grills

Able Distributors
2501 North Central Avenue
Chicago, IL 60639

Phone: 773-889-5555
Toll Free: 800-880-2253
Fax: 773-466-1118
Website: www. abledistributors.com
Parts: Heater

HOW TO ORDER REPAIR PARTS

Parts Not Under Warranty

Parts can be ordered through your Service Person, Dealer, or a Master Parts Distributor. See this page for the Master Parts Distributors list. For best results, the **service person or dealer** should order parts through the distributor. Parts can be shipped directly to the **service person/dealer**.

Warranty Parts

Warranty parts will need a proof of purchase and can be ordered by your Service Person or Dealer. Proof of purchase is **required** for warranty parts.

All parts listed in the Parts List have a Part Number. When ordering parts, first obtain the Model Number and Serial Number from the name plate on your equipment. Then determine the Part Number (**not** the Index Number) and the Description of each part from the following illustration and part list. Be sure to give all this information . . .

Appliance Model Number _____ Part Description _____

Appliance Serial Number _____ Part Number _____

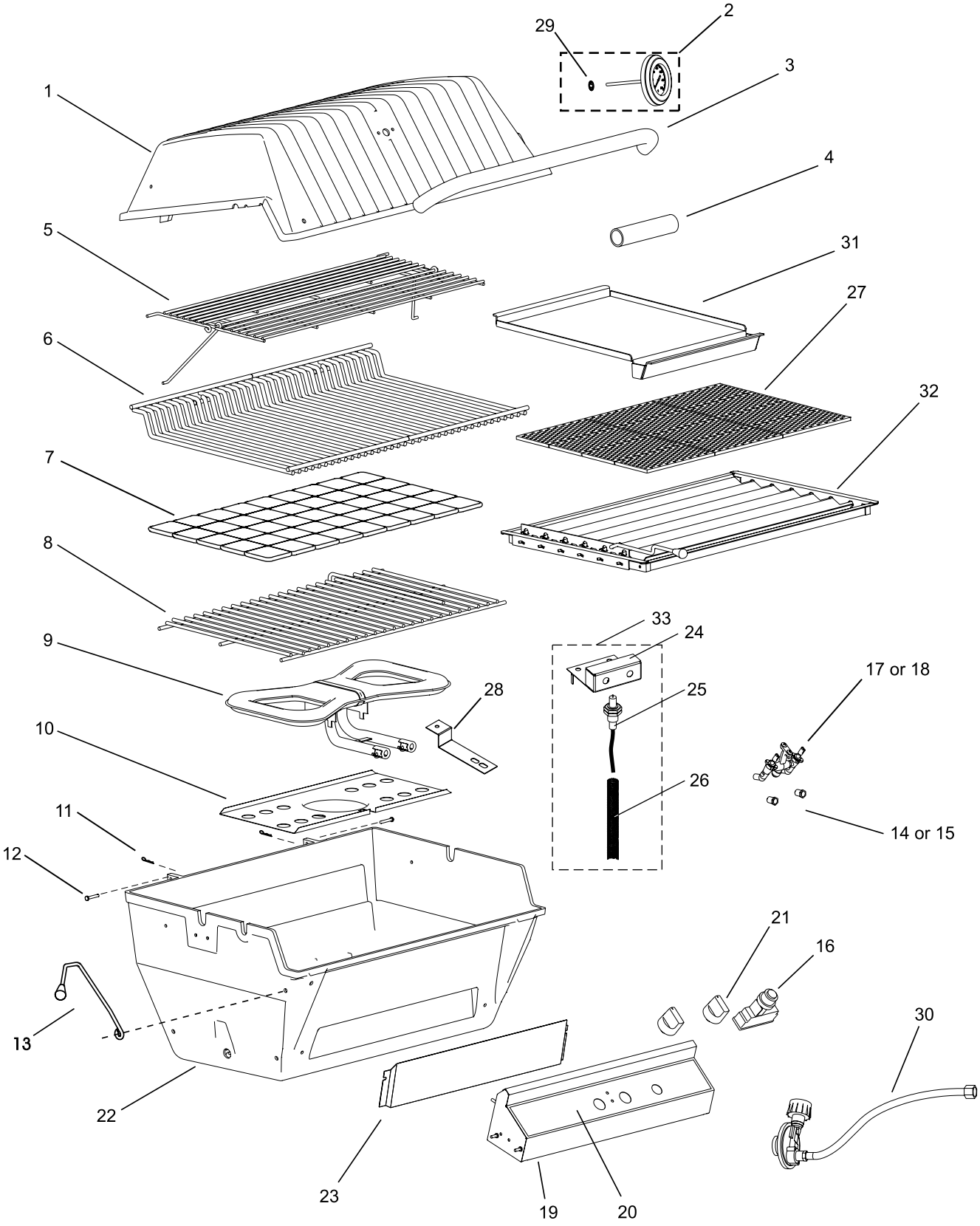
Type of Gas (Propane or Natural) _____

Do not order bolts, screws, washers or nuts. They are standard hardware items and can be purchased at any local hardware store.

Shipments contingent upon strikes, fires and all causes beyond our control.

P3X SERIES PARTS DIAGRAM

All repair part orders should be placed through your local Broilmaster® dealer. To locate a dealer in your area visit www.broilmaster.com. To ensure prompt and accurate service, please provide the following information when placing a repair part order: Model Number, Serial Number, Part Name, Part Number, and Quantity of parts needed.



P3X SERIES PARTS LIST

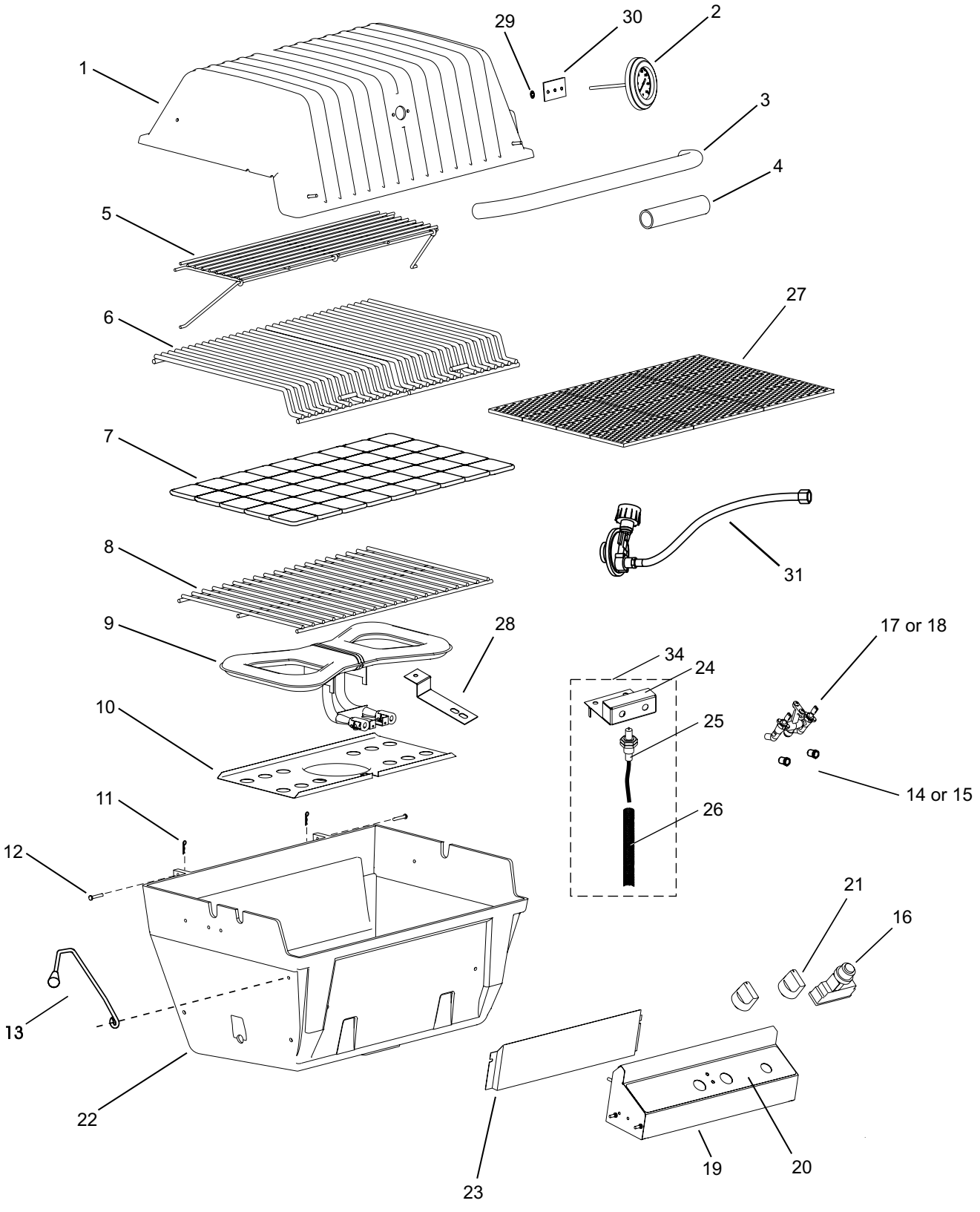
Index No.	Description	Part Number					
		P3SX	P3SXN	P3X	P3XN	P3XF	P3XFN
1	Grill Body Top (with heat indicator, hinge)	B102042	B102042	B102042	B102042	B102042	B102042
1	Grill Body Top (casting only)	B101883	B101883	B101883	B101883	B101883	B101883
2	Heat Indicator (stainless) with push nut	DPP119	DPP119	DPP119	DPP119	DPP119	DPP119
3	Lid Handle (stainless)	B070486	B070486	B070486	B070486	B070486	B070486
4	Foam Grip	B073097	B073097	B073097	B073097	B073097	B073097
5	Retract-A-Rack (stainless)	B072695	B072695	B072695	B072695	B072695	B072695
6	Cooking Grid (two piece Stainless Steel	DPA111	DPA111	DPA111	DPA111	DPA111	DPA111
7	Briquette Bag	N/A	N/A	DPA34	DPA34	N/A	N/A
8	Briquette Rack	B101061	B101061	B101061	B101061	B101061	B101061
9	Burner Assembly	DPP111	DPP111	DPP111	DPP111	DPP111	DPP111
10	Wind Deflector	B101742	B101742	B101742	B101742	B101742	B101742
11	Bridge Pin	B057805	B057805	B057805	B057805	B057805	B057805
12	Hinge Pin	B057804	B057804	B057804	B057804	B057804	B057804
13	Lid Stop Kit	DPA106	DPA106	DPA106	DPA106	DPA106	DPA106
14	Orifice - LPG (#54 drill)	P204	P204	P204	P204	P204	P204
15	Orifice - NAT (#48 drill)	P300	P300	P300	P300	P300	P300
16	Electric Ignitor	B072218	B072218	B072218	B072218	B072218	B072218
17*	Valve - LPG (without orifices)	B101420	B101420	B101420	B101420	B101420	B101420
18*	Valve - NAT (without orifices)	B101421	B101421	B101421	B101421	B101421	B101421
19	Shelf Pin	B073963	B073963	B073963	B073963	B073963	B073963
20	Control Panel Assembly (with label and shield)	B102167	B102167	B102167	B102167	B102167	B102167
20	Control Panel Label (not shown)	B101517	B101517	B101517	B101517	B101517	B101517
21	Valve Knob - Black	B070084	B070084	B070084	B070084	B070084	B070084
22	Grill Body Bottom (casting only)	B101879	B101879	B101879	B101879	B101879	B101879
23	Control Panel Shield	B101622	B101622	B101622	B101622	B101622	B101622
24	Electrode Bracket	B101834	B101834	B101834	B101834	B101834	B101834
25	Electrode	B101666	B101666	B101666	B101666	B101666	B101666
26	Protective Sleeve	B102041	B102041	B102041	B102041	B102041	B102041
27	Flare Busters Kit	DPA116	DPA116	N/A	N/A	DPA116	DPA116
28	Burner Bracket	DPP118	DPP118	DPP118	DPP118	DPP118	DPP118
29	Push Nut	B101665	B101665	B101665	B101665	B101665	B101665
30	Hose & LPS Regulator	B069756	N/A	B069756	N/A	B069756	N/A
31	Griddle, Stainless Steel	B101400	B101400	N/A	N/A	N/A	N/A
32	Smoker/Shutter (includes Actuator Arm & Knob	DPA100	DPA100	N/A	N/A	N/A	N/A
33	Collector Box Assembly	DPP116	DPP116	DPP116	DPP116	DPP116	DPP116
NS	Ignitor Ground Wire	B072684	B072684	B072684	B072684	B072684	B072684
NS	Hardware Package	B101973	B101973	B101973	B101973	B101973	B101973
NS	Actuator Arm - Smoker/Shutter	B100408	B100408	N/A	N/A	N/A	N/A
NS	Knob - Smoker/Shutter Knob	B100098	B100098	N/A	N/A	N/A	N/A

NS - Not Shown

*Valves are not convertible. To convert the unit to a different gas type, a new valve must be purchased.

P4X SERIES PARTS DIAGRAM

All repair part orders should be placed through your local Broilmaster® dealer. To locate a dealer in your area visit www.broilmaster.com. To ensure prompt and accurate service, please provide the following information when placing a repair part order: Model Number, Serial Number, Part Name, Part Number, and Quantity of parts needed.



P4X SERIES PARTS LIST

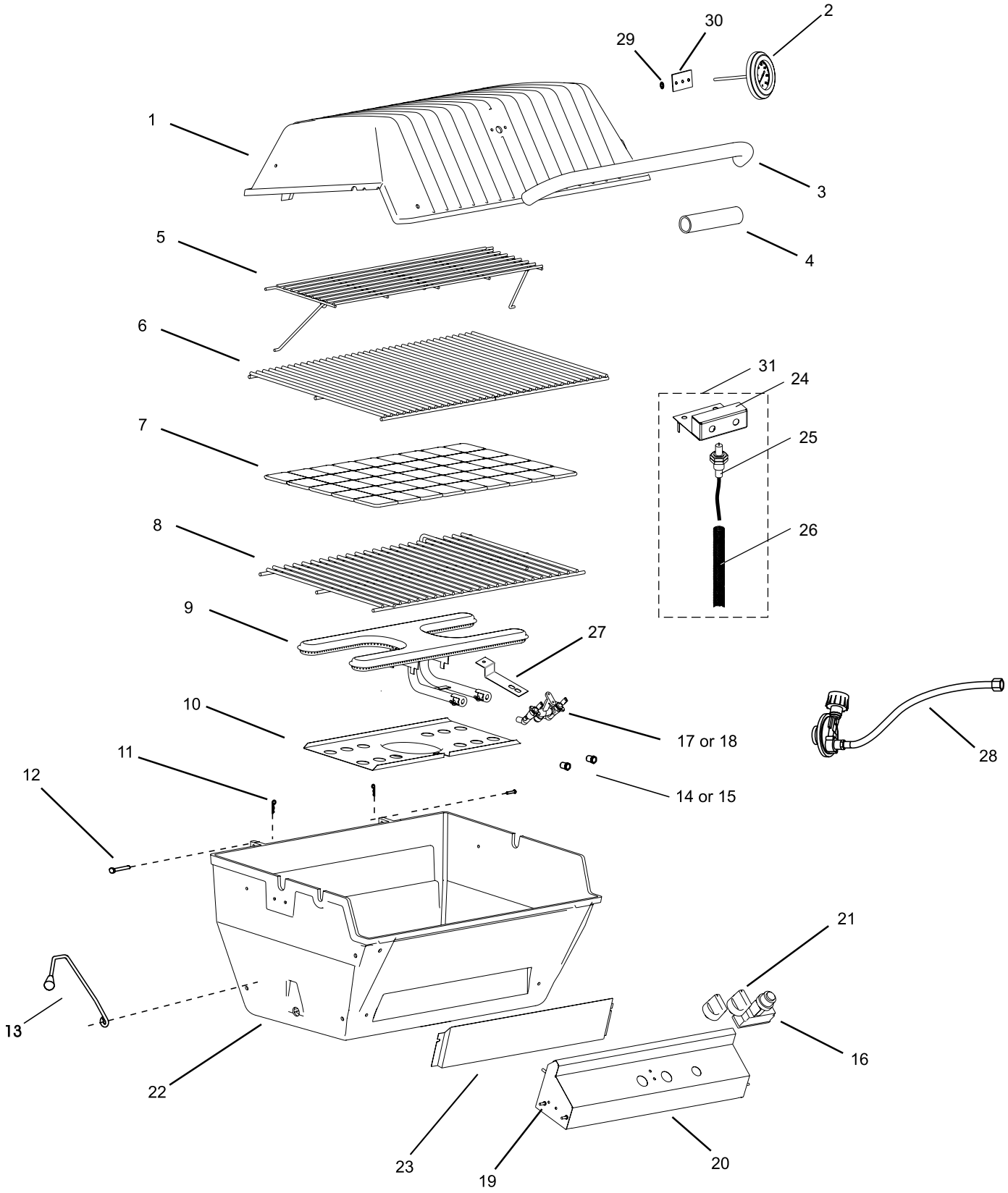
Index No.	Description	Part Number			
		P4X	P4XN	P4XF	P4XFN
1	Grill Body Top (with heat indicator, hinge)	B102043	B102043	B102043	B102043
1	Grill Body Top (casting only)	B076621	B076621	B076621	B076621
2	Heat Indicator (stainless)	DPP119	DPP119	DPP119	DPP119
3	Lid Handle (stainless)	B070486	B070486	B070486	B070486
4	Foam Grip	B073097	B073097	B073097	B073097
5	Warming Rack (stainless)	B072696	B072696	B072696	B072696
6	Cooking Grid (two piece Stainless Steel	DPA112	DPA112	DPA112	DPA112
7	Briquette Bag	DPA34	DPA34	N/A	N/A
8	Briquette Rack	B067449	B067449	B067449	B067449
9	Burner Assembly	DPP111	DPP111	DPP111	DPP111
10	Wind Deflector	B101742	B101742	B101742	B101742
11	Bridge Pin	B057805	B057805	B057805	B057805
12	Hinge Pin	B057804	B057804	B057804	B057804
13	Lid Stop Kit	DPA106	DPA106	DPA106	DPA106
14	Orifice - LPG (#55 drill)	P182	P182	P182	P182
15	Orifice - NAT (#49 drill)	P265	P265	P265	P265
16	Electric Ignitor	B072218	B072218	B072218	B072218
17*	Valve - LPG (without orifices)	B101420	B101420	B101420	B101420
18*	Valve - NAT (without orifices)	B101421	B101421	B101421	B101421
19	Shelf Pin	B073963	B073963	B073963	B073963
20	Control Panel Assembly (w/label and shield)	B102168	B102168	B102168	B102168
20	Control Panel Label	B101518	B101518	B101518	B101518
21	Valve Knob - Black	B070084	B070084	B070084	B070084
22	Grill Body Bottom (casting only)	B101443	B101443	B101443	B101443
23	Control Panel Shield	B101621	B101621	B101621	B101621
24	Electrode Bracket	B101834	B101834	B101834	B101834
25	Electrode	B101666	B101666	B101666	B101666
26	Protective Sleeve	B102041	B102041	B102041	B102041
27	Flare Busters Kit	N/A	N/A	DPA117	DPA117
28	Burner Bracket	DPP118	DPP118	DPP118	DPP118
29	Push Nut	B101665	B101665	B101665	B101665
30	Mounting Plate Assembly	B101997	N/A	B101997	N/A
31	Hose & LPS Regulator	B069756	N/A	B069756	N/A
34	Collector Box Assembly	DPP116	DPP116	DPP116	DPP116
NS	Hardware Package - LPG & NAT	B101973	B101973	B101973	B101973
NS	Ignitor Ground Wire	B072684	B072684	B072684	B072684

NS - Not Shown

*Valves are not convertible. To convert the unit to a different gas type, a new valve must be purchased.

H3X SERIES PARTS DIAGRAM

All repair part orders should be placed through your local Broilmaster® dealer. To locate a dealer in your area visit www.broilmaster.com. To ensure prompt and accurate service, please provide the following information when placing a repair part order: Model Number, Serial Number, Part Name, Part Number, and Quantity of parts needed.

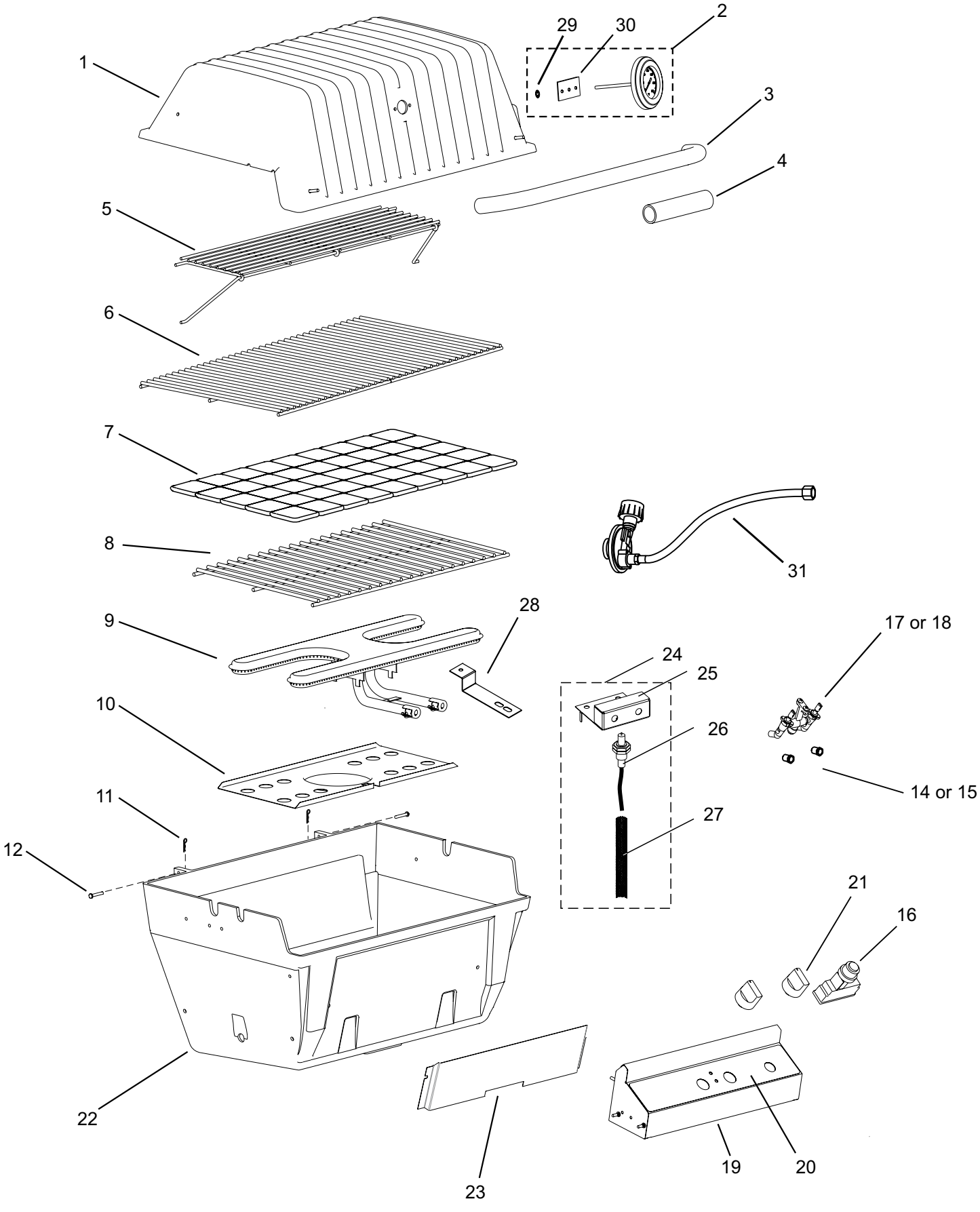


H3X SERIES PARTS LIST

Index No.	Part Description	Part Number	
		H3X	H3XN
1	Grill Body Top (with heat indicator, hinge,	B102042	B102042
1	Grill Body Top (casting only)	B100456	B100456
2	Heat Indicator (stainless)	DPP119	DPP119
3	Lid Handle (stainless)	B070486	B070486
4	Foam Grip	B073097	B073097
5	Warming Rack (Chrome)	B100594	B100594
6	Cooking Grid (two piece Stainless Steel)	B101397	B101397
7	Briquette Bag	B058122	B058122
8	Briquette Rack	B101061	B101061
9	Burner Assembly	DPP109	DPP109
10	Wind Deflector	B063065	B063065
11	Bridge Pin	B057805	B057805
12	Hinge Pin	B057804	B057804
13**	Lid Stop Kit	DPA106	DPA106
14	Orifice - LPG (#55 drill)	P182	P182
15	Orifice - NAT (#49 drill)	P265	P265
16	Electric Ignitor	B072218	B072218
17*	Valve - LPG (without orifices)	B101420	B101420
18*	Valve - NAT (without orifices)	B101421	B101421
19	Shelf Pin	B073963	B073963
20	Control Panel Assembly (with label)	B101563	B101563
20	Control Panel Label (not shown)	B101517	B101517
21	Valve Knob - Black	B070084	B070084
22	Grill Body Bottom (casting only)	B101879	B101879
23	Control Panel Shield	B101622	B101622
24	Electrode Bracket	B101834	B101834
25	Electrode	B101666	B101666
26	Protective Sleeve	B102041	B102041
27	Burner Bracket	DPP118	DPP118
28	Hose & LPS Regulator	B069756	N/A
29	Push Nut	B101665	B101665
30	Mounting Plate Assembly	B101997	B101997
31	Collector Box Assembly	DPP116	DPP116
NS	Hardware Package	B101971	B101971
NS	Ignitor Ground Wire	B072684	B072684

NS - Not Shown
*Valves are not convertible. To convert the unit to a different gas type, a new valve must be purchased.
**Note: H3 Series grills do not come with a Lid Stop Kit. The Lid Stop Kit must be purchased separately.

H4X SERIES PARTS DIAGRAM



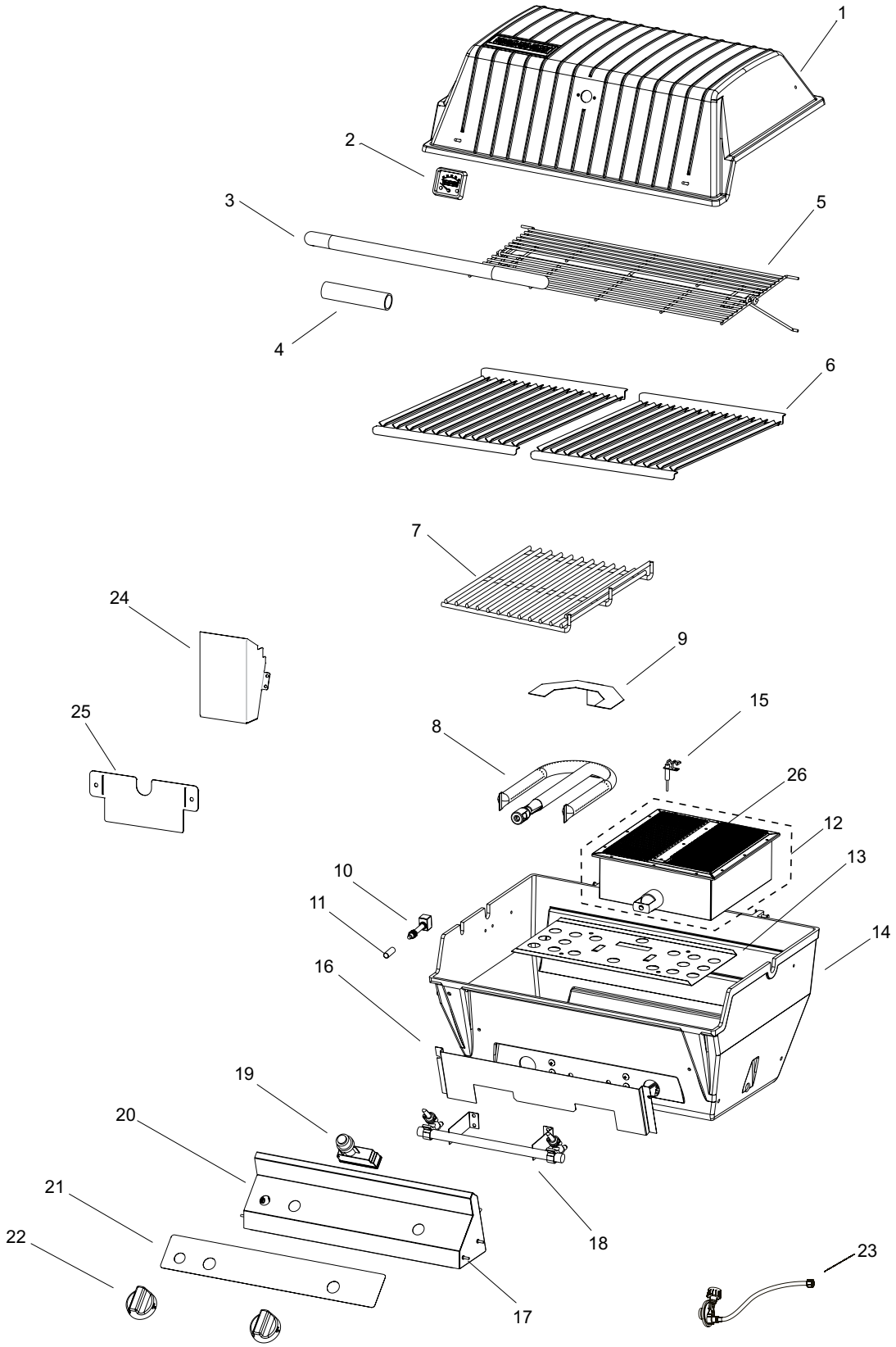
H4X SERIES PARTS LIST

Index No.	Description	Part Number	
		H4X	H4XN
1	Grill Body Top (with heat indicator, hinge)	B102043	B102043
1	Grill Body Top (casting only)	B076621	B076621
2	Heat Indicator (stainless)	DPP119	DPP119
3	Lid Handle (stainless)	B070486	B070486
4	Foam Grip	B073097	B073097
5	Warming Rack (stainless)	B072696	B072696
6	Cooking Grid	DPA114	DPA114
7	Briquette Bag	DPA34	DPA34
8	Briquette Rack	B067449	B067449
9	Burner Assembly	DPP115	DPP115
10	Wind Deflector	B101742	B101742
11	Bridge Pin	B057805	B057805
12	Hinge Pin	B057804	B057804
13**	Lid Stop Kit	DPA106	DPA106
14	Orifice - LPG (#122 mm)	P312	P312
15	Orifice - NAT (#50 drill)	P245	P245
16	Electric Ignitor	B072218	B072218
17*	Valve - LPG (without orifices)	B101420	B101420
18*	Valve - NAT (without orifices)	B101421	B101421
19	Shelf Pin	B073963	B073963
20	Control Panel Assembly (w/label and shield)	B102168	B102168
20	Control Panel Label	B101518	B101518
21	Valve Knob - Black	B070084	B070084
22	Grill Body Bottom (casting only)	B101443	B101443
23	Control Panel Shield	B101621	B101621
24	Collector Box Assembly	DPP116	DPP116
25	Electrode Bracket	B101834	B101834
26	Electrode	B101666	B101666
27	Protective Sleeve	B102041	B102041
28	Burner Bracket	DPP118	DPP118
29	Push Nut	B101665	B101665
30	Mounting Plate Assembly	B101997	B101997
31	Hose & LPS Regulator	B069756	N/A
NS	Hardware Package - LPG & NAT	DPP116	DPP116
NS	Ignitor Ground Wire	B072684	B072684

NS - Not Shown
*Valves are not convertible. To convert the unit to a different gas type, a new valve must be purchased.
**Note: H4 Series grills do not come with a Lid Stop Kit. The Lid Stop Kit must be purchased separately.

R3 SERIES PARTS DIAGRAM

All repair part orders should be placed through your local Broilmaster dealer. To locate a dealer in your area, visit www.Broilmaster.com. To ensure prompt and accurate service, please provide the following information when placing a repair part order: Model Number, Serial Number, Part Name, Part Number, and Quantity of parts needed.



R3 SERIES PARTS LIST

Index No.	Description	Part Number			
		R3	R3N	R3B	R3BN
1	Grill Body Top - Black	B100456	B100456	B100456	B100456
2	Heat Indicator (Stainless)	B101406	B101406	B101406	B101406
3	Lid Handle (Stainless)	B070486	B070486	B070486	B070486
4	Foam Grip	B073097	B073097	B073097	B073097
5	Stainless Steel Retract-A-Rack	B072695	B072695	B072695	B072695
6	Stainless Steel V-Channel Cooking Grid (Qty 2 for R3 and R3N)	DPA121	DPA121	DPA121	DPA121
7	Briquet Rack	N/A	N/A	B101369	B101369
8	Burner	N/A	N/A	B101030	B101030
9	Burner Shield	N/A	N/A	B101154	B101154
10	Collector Box Assembly	N/A	N/A	B101212	B101212
11	Ignitor Spacer	N/A	N/A	B101082	B101082
12	Infrared Burner (one required)	N/A	N/A	B102180	B102180
12	Infrared Burner (two required)	B102180	B102180	N/A	N/A
13	Wind Deflector	B101045	B101045	B101045	B101045
14	Grill Body Bottom - Black	B101881	B101881	B101881	B101881
15	Infrared Ignitor (one Required)	N/A	N/A	B101271	B101271
15	Infrared Ignitor (two Required)	B101271	B101271	N/A	N/A
16	Control Panel Shield	B101046	B101046	B101046	B101046
17	Pin, Shelf	B073963	B073963	B073963	B073963
18	Manifold And Valve Assembly (includes orifices)	B101356	B101316	B101314	B101317
19	Electronic Ignitor	B072218	B072218	B072218	B072218
20	Control Panel Assembly (w/label and shield)	B102169	B102169	B102169	B102169
21	Control Panel Label	B101272	B101272	B101272	B101272
22	Valve Knob	R3918	R3918	R3918	R3918
23	Hose And LP Regulator	B069756	N/A	B069756	N/A
24*	Control Housing - Stainless Steel	B101121	B101121	B101121	B101121
25**	Cover Plate - Black	B101596	B101596	B101596	B101596
25a**	Cover Plate - Black	B101767	B101767	B101767	B101767
25**	Cover Plate - Stainless Steel	B101597	B101597	B101597	B101597
25b**	Cover Plate - Stainless Steel	B101768	B101768	B101768	B101768
26	Burner Screen	B102182	B102182	B102182	B102182
N/S	Char-Master Briquets	N/A	N/A	B101323	B101323
N/S	Hardware Pack	B101274	B101275	B101309	B101310
N/S	Bridge Pin	B057805	B057805	B057805	B057805
N/S	Hinge Pin	B057804	B057804	B057804	B057804
N/S	Natural Gas Conversion Kit	BCK1004	N/A	BCK1004	N/A
N/S	Ground Lug (two Required)	B069747	B069747	N/A	N/A
N/S	Ground Wire	B072684	B072684	N/A	N/A
N/S	Hardware Pack, Adjustable Lid Stop	B101097	B101097	B101097	B101097

N/S - NOT SHOWN

*Control Housing is used only when installing grill head onto cart. See the instructions that come with the cart for Control Housing installation instructions.

** Cover Plate is used only when installing grill head onto post. See the instructions that come with the post for Cover Plate installation instructions.

GRILL ASSEMBLY

Before You Begin

All Broilmaster grills require some assembly and installation. Follow all instructions unless noted to apply only to other specific models.

If you purchased an accessory with your Broilmaster, follow the instructions provided with the accessory for assembly and installation. If an instruction refers to a step that is not required for your grill model, please continue to the next step.

Compare the parts found in the shipping container to the parts list provided. If any parts are missing contact your Broilmaster® dealer before beginning assembly.

CAUTION: FOR YOUR SAFETY
Parts may have sharp edges. Wear leather work gloves and handle parts carefully during the unpacking, assembly and installation.

Recommended Tools

These items are recommended for the assembly of your grill:
Do NOT use power tools.

- Phillips screwdriver
- Adjustable wrench set
- Socket set
- Soapy water solution (to test for leaks)
- Liquid soap (for foam grip)

Grill Mountings

Assemble your base option before assembling your Broilmaster® grill head.

Refer to the Broilmaster® Cart, Base, and Post instructions provided with each accessory for assembly, installation, and mounting procedures.

WARRANTY TERMS

Empire Comfort Systems Inc. warranties this Broilmaster premium gas grill to be free from defects at the time of purchase and for the periods specified below. Broilmaster Premium Gas Grills must be installed by a qualified technician and must be maintained and operated safely, in accordance with the instructions in the owner's manual. This warranty applies to the original purchaser only and is not transferable. All warranty repairs must be accomplished by a qualified gas appliance technician.

Limited Lifetime Parts Warranty – Against Rust-Through

If the items listed below fail because of defective workmanship or material, Empire will repair or replace at Empire's option.

- Aluminum Grill Housing (except paint)
- Stainless Steel Cooking Grids and Stainless Steel Griddles
- Select Stainless Steel Components – Cart, Mounting, Bowtie Burner, Side Burner (DPA150, DPA151), Side Burner Housing (DPA152), and Warming Rack
- Stainless Steel Built-In Components – Built-In Kits for 3-Series Grill Heads, Door Kit, Tilt-Out LP Tank Door, and Vent Register Kit

Limited Ten-Year Parts Warranty – Against Rust-Through

If the items listed below fail because of defective workmanship or material, Empire will repair or replace at Empire's option.

- H-Series and R3B Stainless Steel Burners

WARRANTY TERMS

Limited Five-Year Parts Warranty – Against Rust-Through

If the items listed below fail because of defective workmanship or material, Empire will repair or replace at Empire's option.

- Infrared Burners on R3 or R3B
- Flare Buster™ Ceramic Flavor Enhancers
- Painted Electro-Galvanized Steel Components
- Stainless Steel Smoker Shutter

Limited Two-Year Parts Warranty – Against Rust-Through

If the items listed below fail because of defective workmanship or material, Empire will repair or replace at Empire's option.

- Porcelain Coated Steel Briquette Racks
- Chrome-Plated Warming Rack
- Stainless Steel Flavor Screen
- Stainless Steel Heat Shield

Limited One-Year Parts Warranty

If the items listed below fail because of defective workmanship or material, Empire will repair or replace at Empire's option.

- Valves, knobs, ignitors, labels, hoses, fittings and all other parts and accessories – including those made from stainless steel – unless specified above
- Paint on Aluminum Grill Head

Duties Of The Owner

The appliance must be installed by a qualified installer and operated in accordance with the instructions furnished with the appliance.

A bill of sale, cancelled check, or payment record should be kept to verify purchase date and establish warranty period.

Ready access to the appliance for service.

What Is Not Covered

Damages that might result from the use, misuse, or improper installation or storage of this appliance.

Travel, diagnostic costs and freight charges on warranted parts to and from the factory.

Claims that do not involve defective workmanship or materials.

Unauthorized service or parts replacements.

Removal and reinstallation cost.

Inoperable due to improper or lack of maintenance.

The costs of a service call to diagnose a problem and labor for replacement or repairs.

How To Get Service

To make a claim under this warranty, please have your receipt available and contact your installing dealer. Provide the dealer with the model number, serial number, type of gas, and purchase verification. The installing dealer is responsible for providing service and will contact the factory to initiate any warranted parts replacements. Empire will make replacement parts available at the factory. Shipping expenses are not covered.

If, after contacting your Empire dealer, service received has not been satisfactory, contact: Consumer Relations Department, Empire Comfort Systems Inc., PO Box 529, Belleville, Illinois 62222, or send an e-mail to info@empirecomfort.com with "Consumer Relations" in the subject line.

Your Rights Under State Law

This warranty gives your specific legal rights, and you may also have other rights, which vary from state to state.

Broilmaster is a Division of Empire Comfort Systems, Inc.

PROPANE GAS GRILLS

Grill Location
When choosing the ideal location for your Broilmaster® Premium Gas Grill, remember this grill is designed for outdoor use ONLY.

You should never install or operate your grill in any building, garage, or other enclosed area.

For your safety, this grill should not be installed or operated under any combustible materials, such as carports, covered porches, awnings, or overhangs.

Never install or operate your grill in or on any recreational vehicle or boat.

CAUTION: The installation and operation of this grill at clearances less than specified below may lead to the possibility of fire, property damage, or personal injury.

A minimum clearance of 16 inches is required from the sides of the grill to any combustible material.

A minimum clearance of 18 inches is required from the back of the grill to any combustible material.

Some examples of combustible materials are a wall, a fence, patio furniture, or the wall of your home.

The area surrounding the grill should be clear to ensure proper ventilation. Do not obstruct the flow of combustion and ventilation air in any way. The ventilation openings on the propane cylinder enclosure must also remain free and clear of debris.

Portable grills should be level and positioned away from direct wind prior to each use.

⚠ **WARNING: Do not install or operate this grill where gasoline or other flammable materials are used or stored. Failure to comply with this warning could result in explosion or fire causing property damage or personal injury.**

Cylinder Requirements
Your Broilmaster® Premium Gas Grill requires a standard twenty pound propane gas cylinder.

The maximum height allowable for a replacement cylinder is approximately twelve inches (30.5 centimeters).

The propane gas cylinder used must be:

1. Constructed and marked in accordance with the specifications for LP gas cylinder of the U.S. Department of Transportation (D.O.T.) or the National Standard of Canada, CAN/CSA-B339, Cylinders, Spheres, and Tubes for Transportation of Dangerous Goods; and Commission as applicable.

2. Provided with a listed overfilling protection device (OPD).

3. Provided with a listed safety device having direct access with the vapor space of the cylinder and the cylinder supply system must be arranged for vapor removal.

4. Provided with a shutoff valve terminating in a valve outlet as specified in the Standard for Compressed Gas Cylinder Outlet and Inlet Connections, ANSICGA-V-1.

5. Provided with a plug to effectively seal off the cylinder outlet when the cylinder is being stored or transported.

6. Provided with a collar to protect the cylinder valve.

Caution: Do not use a propane gas cylinder which has a capacity greater than twenty pounds with this grill and side burner.

PROPANE GAS GRILLS

Propane Cylinder Safety
Liquid Propane (LP) gas has a long history of safe use when the safety precautions provided in this manual are followed.

Failure to follow these safety precautions could result in a fire or explosion causing property damage or personal injury.

Propane gas cylinders should always be handled, stored, and transported with extreme caution in a secured upright position.

Never attempt to use or repair a propane gas cylinder that has been damaged. Never attempt to use or repair a cylinder with a faulty or damaged valve outlet. A cylinder that has been dropped, dented, or otherwise damaged must be replaced.

A propane gas cylinder should never be transported in the passenger area of a vehicle.

Keep cylinders out of direct sunlight and never apply any other source of direct heat to them.

When refilling your cylinder, always insist on a reputable, qualified gas dealer. Your propane gas cylinder is filled by weight, and should never exceed eighty percent (80%) of its weight limit. If the cylinder is not completely empty, the gas dealer must make necessary adjustments to ensure it is not overfilled. Never use an overfilled Propane gas cylinder.

Cylinder Storage
Your grill must be stored outdoors in a well ventilated area if the cylinder is attached to it.

Disconnected cylinders must have a threaded valve plug tightly installed and must not be stored in any building, garage, or other enclosed area.

Flammable materials (gasoline, grill covers, etc.) must not be stored in the cylinder enclosure.

Always store Propane cylinders in a secured upright position, out of the reach of children.

Connection Requirements
Caution: Never use Liquid Propane (LP) gas in a grill designed for Natural gas, or Natural gas in a grill designed for Liquid Propane gas. Questions regarding different types of gases should be directed to your local gas supplier.

Installation must conform to local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1. In Canada, installation shall be in accordance with CAN/CGA-B149.2 Propane Installation Code, or CAN/CGA-B149.1 Natural Gas Installation Code, and local codes where applicable. Consult your local gas supplier or propane gas dealer for code regulations and recommended procedures.

⚠ **Warning: Broilmaster® Premium Gas Grills require Liquid Propane (LP) cylinders equipped with an Overfill Protection Device (OPD). An overfilled or improperly filled Propane cylinder can be dangerous.**

Always use the pressure regulator and hose assembly supplied with your Propane gas grill.

Note: Not all valve and cylinder combinations are compatible. Check warning tag on valve and cylinder as well as external fitting threads.

All Broilmaster® pressure regulators and hose assemblies require Propane cylinders with a Type 1 connection device as illustrated. **See Figure 1.**

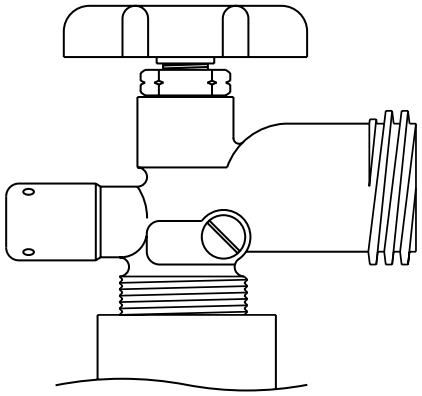


Figure 1

Pressure Regulator and Hose Assembly
The pressure regulator has an outlet pressure of not more than eleven inches water column. It must be connected to the Propane gas cylinder's female valve outlet before the grill can be operated.

Caution: Operation of a Propane gas grill without the pressure regulator and hose assembly will cause gas leaks which could lead to fire or explosion, resulting in property damage or personal injury.

The pressure regulator's fitting must remain clean and free of nicks and scratches. A dirty, nicked or scratched fitting can cause a gas leak, resulting in an explosion or fire. Use only genuine Broilmaster® replacement parts unless otherwise specified by the manufacturer.

Connecting to Propane Gas / Cylinder Retention Means

ATTENTION: Propane gas cylinders that are acceptable for use with this grill must comply with Cylinder Requirements, Page 18, and Connection Requirements, Page 19.
Position the cylinder in the opening in the bottom of the cart and secure with the cylinder retaining bracket. **See Figure 2.**

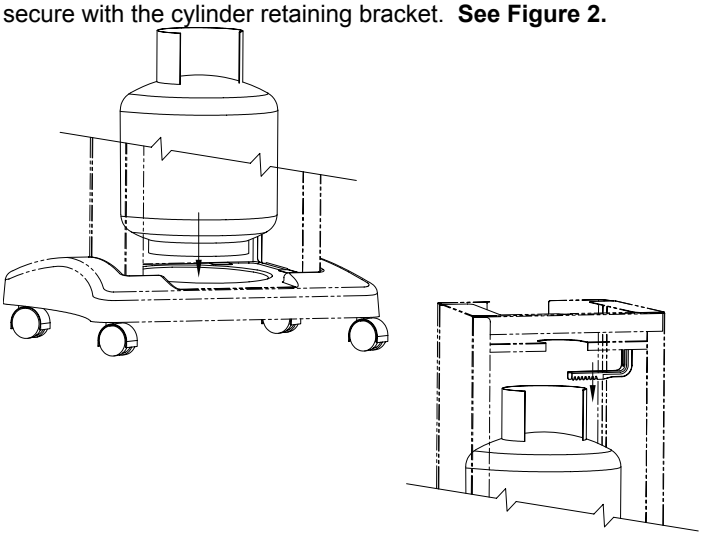
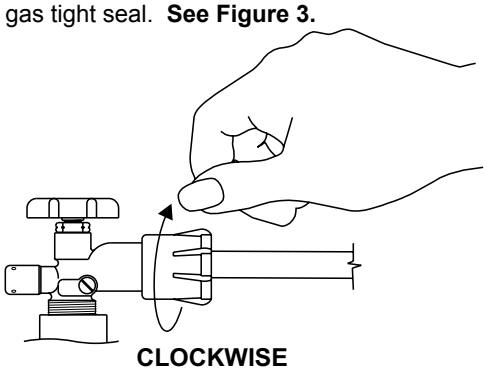


Figure 2

Attach the pressure regulator to the Propane gas cylinder's valve using the plastic handwheel. Tighten in a clockwise motion to achieve a gas tight seal. **See Figure 3.**



CLOCKWISE
Figure 3

Caution: Do not use a wrench or any other tool to tighten. Use of a wrench or other tool will damage the plastic handwheel.
To disconnect the Propane gas cylinder, turn OFF the cylinder's valve and the grill's control valve. Remove the regulator by turning the plastic handwheel counterclockwise.

Caution: Assure hose does not touch the casting or mounting components.

NATURAL GAS GRILLS

Grill Location
When choosing the ideal location for your Broilmaster Premium Gas Grill, remember this grill is designed for outdoor use ONLY.

You should never install or operate your grill in any building, garage, or other enclosed area.

For your safety, this grill should not be installed or operated under any combustible materials, such as carports, covered porches, awnings, or overhangs.

Never install or operate your grill in or on any recreational vehicle or boat.

CAUTION: The installation and operation of this grill at clearances less than specified below may lead to the possibility of fire, property damage, or personal injury.

A minimum clearance of 16 inches is required from the sides of the grill to any combustible material.

A minimum clearance of 18 inches is required from the back of the grill to any combustible material.

Some examples of combustible materials are a wall, a fence, patio furniture, or the wall of your home.

The area surrounding the grill should be clear to ensure proper ventilation. Do not obstruct the flow of combustion and ventilation air in any way. The ventilation openings on the propane cylinder enclosure must also remain free and clear of debris.

Portable grills should be level and positioned away from direct wind prior to each use.

⚠ **WARNING: Do not install or operate this grill where gasoline or other flammable materials are used or stored. Failure to comply with this warning could result in explosion or fire causing property damage or personal injury.**

Gas Type
The type gas required for your grill can be determined from the product identification label located on the grill's control panel. Questions regarding different types of gases should be directed to your local gas supplier.

Caution: Never use Liquid Propane (LP) gas in a grill designed for Natural gas, or Natural gas in a grill designed for Liquid Propane gas. Questions regarding different types of gases should be directed to your local gas company.

Connection Requirements
Broilmaster grills are not equipped with pressure regulators. Your gas grill operates at a manifold pressure of seven inches water column.

Connect cart mounted Natural gas grills to a pre-installed gas supply line using the twelve foot flexible hose and quick disconnect kit which can be purchased from your local dealer.

Hazardous Locations and Conditions
- The LP gas cylinder must be arranged upright for vapor withdrawal.
- Do not obstruct the flow of combustion and ventilation air.
- This grill should only be used outdoors in a well-ventilated space must not be used in a building, garage, or any other enclosed area.
- Keep all flammable substances away from the grill. These include most aerosols and aerosol containers, gasoline and similar liquids, paper and paper products, containers of grease, paint, etc.
- Never store flammable materials or objects such as those described above in the pedestal base.
- Never leave grill unattended while in operation.
- Never use any liquid in an attempt to control flare-up.
- It may be necessary to adjust your grill away from the direction of prevailing wind.
- Avoid wearing flammable and/or loose clothing such as long-sleeves, neckties, scarves, aprons, etc., while the grill is in operation.
- Avoid contact of hair to heat and flames.

Caution: The grill and its individual shutoff valve must be disconnected from the gas supply piping system during any system pressure testing at test pressures in excess of 1/2 PSIG.

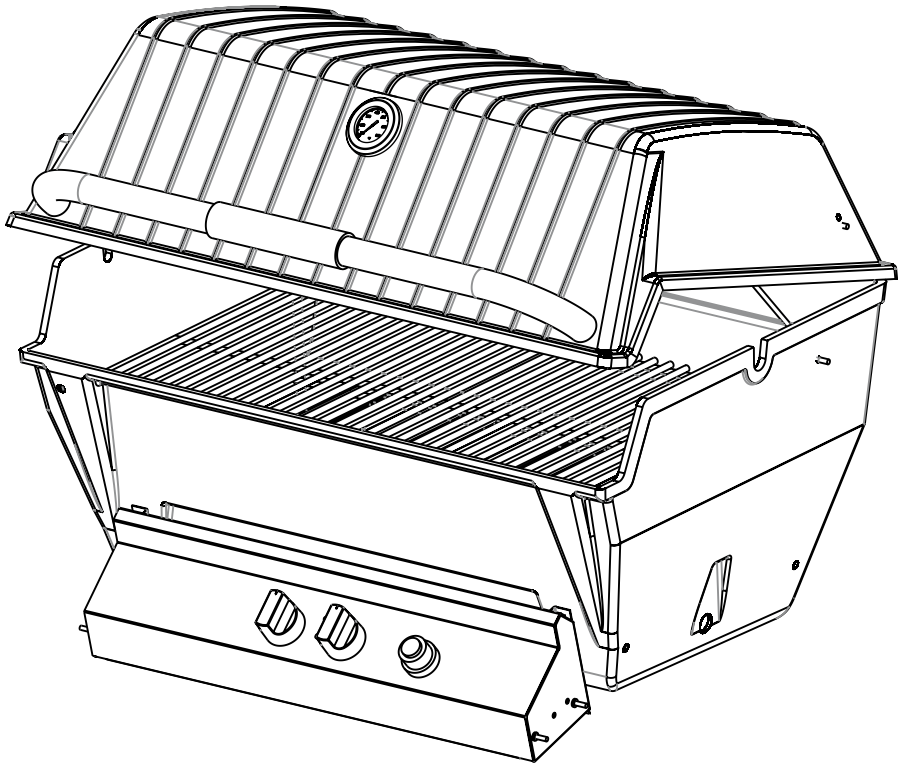
Caution: The grill must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 PSIG.

OPTIONS By Broilmaster

BROILMASTER®
PREMIUM GAS GRILLS

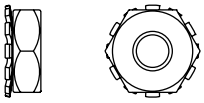
Owner's Manual For Models

P3X-2	**P4X-2**	**H3X-3**	**H4X-2**
P3SX-2	**P4XF-2**	**H3XN-3**	**H4XN-2**
P3XF-2	**P4XN-2**		
P3XN-2	**P4XF-2**		
P3SXN-2			
P3XF-2			

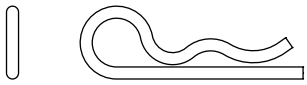


GAS-FIRED
c UL us
LISTED

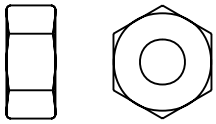
HARDWARE PACK - H3, H4



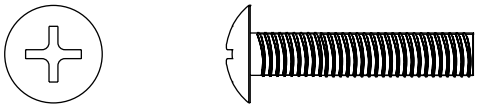
10-24 KEPS NUT



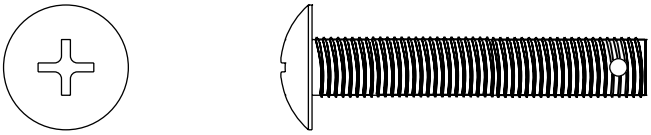
BRIDGE PIN



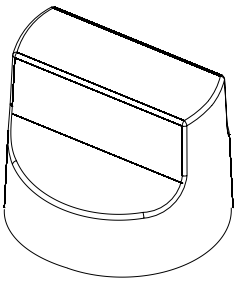
1/4-20 HEX NUT



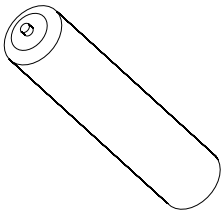
PHILLIPS TRUSS HEAD SCREW 10-24 X 1



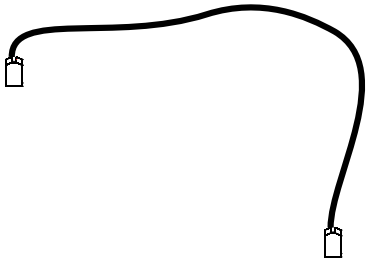
PHILLIPS TRUSS HEAD SCREW 1/4-20 X 1 1/2



KNOB



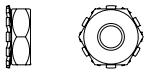
AA BATTERY



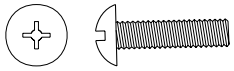
WIRE, IGNITOR GROUND

DESCRIPTION	PART NUMBER	QUANTITY SUPPLIED
10-24 KEPS NUT	B073967	2
PHILLIPS TRUSS HEAD SCREW 10-24 X 1	B073978	2
1/4-20 HEX NUT	B076331	1
PHILLIPS TRUSS HEAD SCREW 1/4-20 X 1-1/2	B101649	1
BRIDGE PIN	B057805	1
KNOB, VALVE	B070084	2
WIRE, IGNITOR GROUND	B072084	1
GRIP, FOAM (NOT SHOWN)	B073097	1
BATTERY, AA	B076529	1

HARDWARE PACK - P3, P4

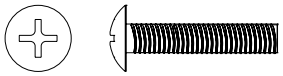


10-24 KEPS NUT

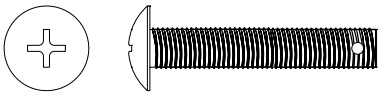


PHILLIPS TRUSS HEAD SCREW 10-24 X 3/4

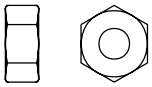
10-24 HEX NUT, LOCK



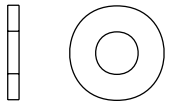
PHILLIPS TRUSS HEAD SCREW 10-24 X 1



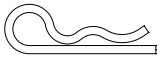
PHILLIPS TRUSS HEAD SCREW 1/4-20 X 1 1/2



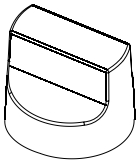
1/4-20 HEX NUT



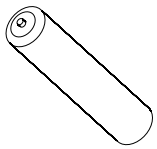
1/4 ID X 5/8 OD FLAT WASHER



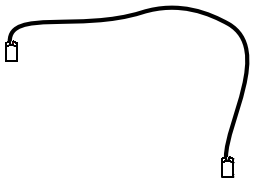
BRIDGE PIN



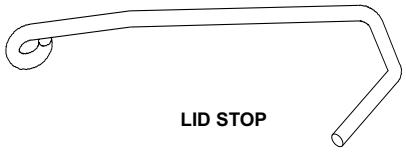
KNOB



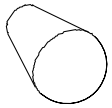
AA BATTERY



WIRE, IGNITOR GROUND



LID STOP



LID STOP KNOB

SPACER, LID STOP

DESCRIPTION	PART NUMBER	QUANTITY SUPPLIED
10-24 KEPS NUT	B073967	2
PHILLIPS TRUSS HEAD SCREW 10-24 X 1	B073978	2
1/4-20 HEX NUT	B076331	1
1/4 ID X 5/8 OD FLAT WASHER	B076332	2
PHILLIPS TRUSS HEAD SCREW 10-24 X 3/4	B100128	1
10-24 HEX NUT, LOCK	R4021	1
PHILLIPS TRUSS HEAD SCREW 1/4-20 X 1 1/2	B101649	1
BRIDGE PIN	B057805	1
KNOB, VALVE	B070084	2
WIRE, IGNITER GROUND	B072684	1
GRIP, FOAM (NOT SHOWN)	B073087	1
BATTERY, AA	B076529	1
LID STOP	B076521	1
KNOB, TAPERED, LID STOP	B100098	1
SPACER, LID STOP	B662325	1

GRILL ASSEMBLY

Installing the Hose and Regulator

To ease assembly, remove grill top before assembling. Remove the 2 pins and clips at the rear of the grill top and set aside. **See Figure 4.**

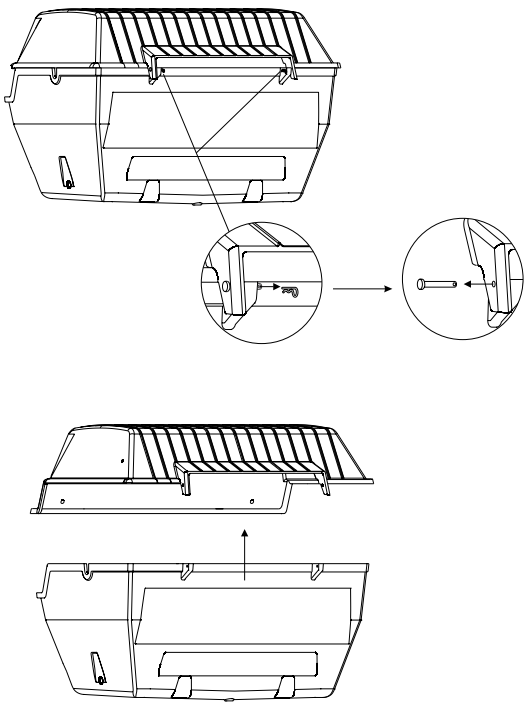


Figure 4

LP Models: Attach the hose and regulator supplied with the unit as shown in Figure 5.

Nat Gas Models: Attach the 12 foot quick connect hose (NG12 - not supplied with unit).

For Post Installations: See post mounting instructions for assembly and installation of gas-line hook-up.

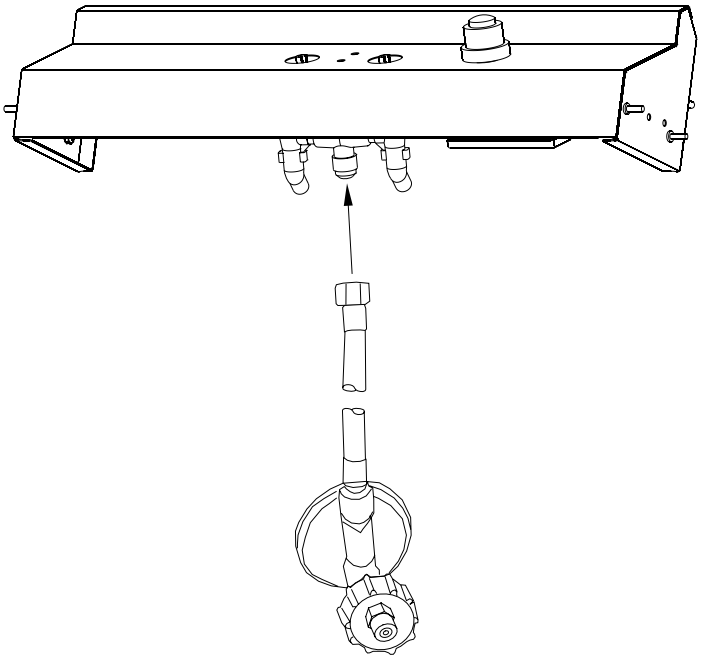


Figure 5

Installing Control Panel Shield

Attach shield by inserting the shield over the studs. **See Figure 6.**

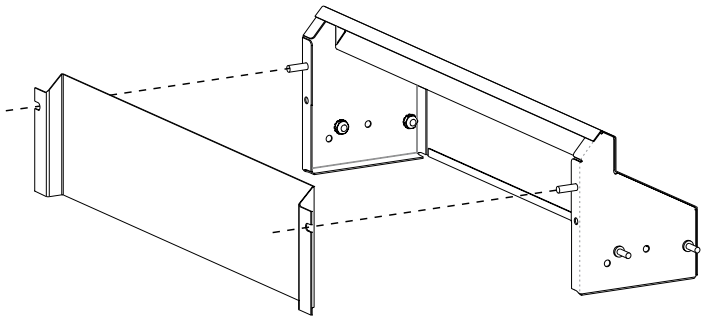


Figure 6

Installing Control Panel

Attach control panel assembly to grill bottom with two 10-24 keps nuts. **See Figure 7.**

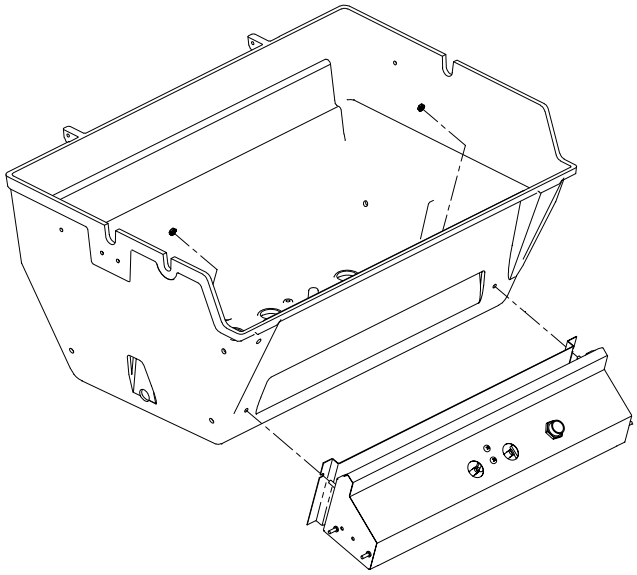


Figure 7

GRILL ASSEMBLY

Burner Bracket Securing Bolt

1. Insert the 1/4-20 x 1 1/2 Phillips Truss Head Screw from the underside of the grill and secure with the 1/4-20 Hex Nut. **See Figure 8.**

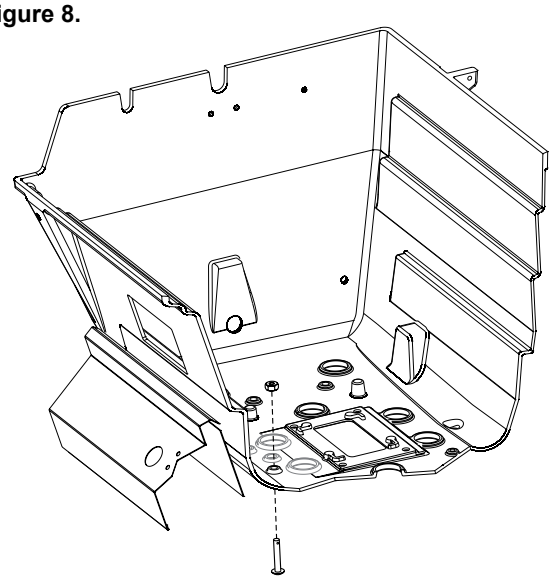


Figure 8

Note: If the Grill Head is installed on a PCB1, PSCB or DCB1, make sure the cart shield is not installed until the burner bracket securing bolt is installed.

Install Head to Mounting

1. Install Grill Head on a Cart or Post Mounting (see Cart or Post Installation Instructions that come with the mounting option).

Heat Shield / Wind Shield

Place the heat and wind shield in the grill bottom.
See Figure 9.

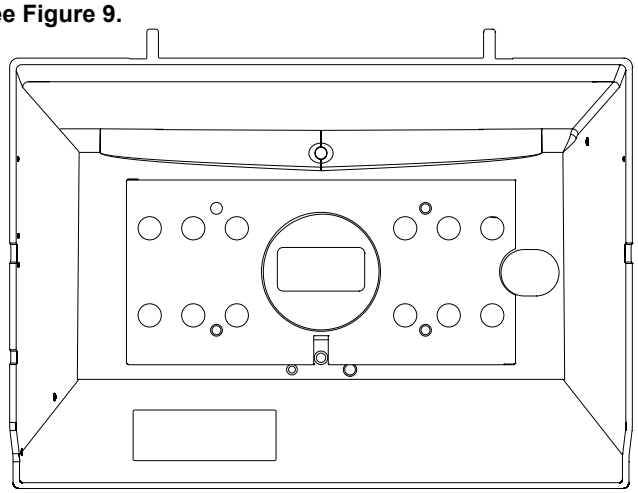


Figure 9

Note: The heat shield cannot be installed until after the grill is installed on a post or cart.

Ignitor Wire

Note: Install the Ignitor Ground Wire before installing the burner.

1. Connect the ground wire to the ground lug on the collector box before installing the burner into the grill. **See Figure 10.**

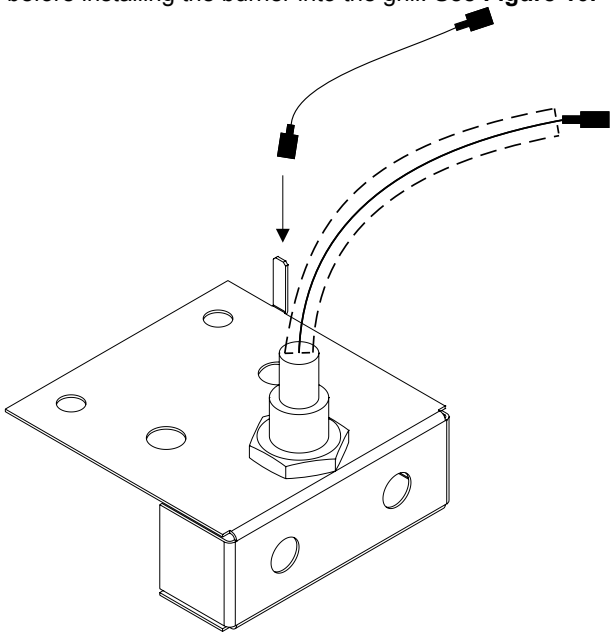
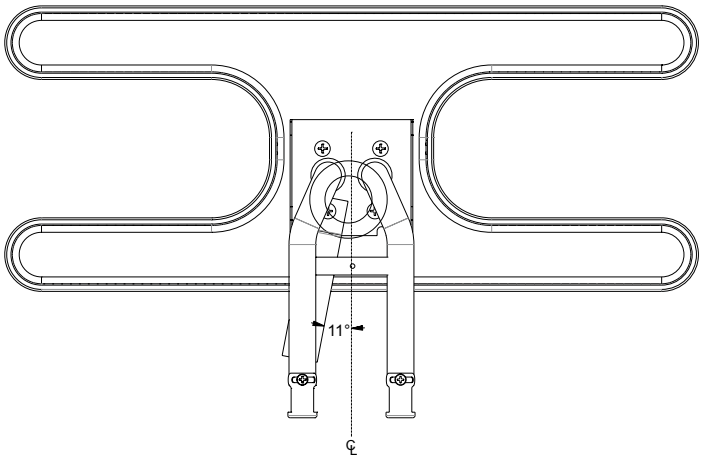


Figure 10

Installing the Burner

1. The burner bracket should be at a slight angle as shown in Figure 11. Once the proper angle is achieved, tighten the screw securing the burner bracket to the venturi assembly and burner body.



"H" Series Burner Shown
Figure 11

2. Insert the burner assembly into the grill bottom with the venturi tubes facing the front of the grill. Slide venturis and ignitor wires down through the center hole. **See Figure 12.**

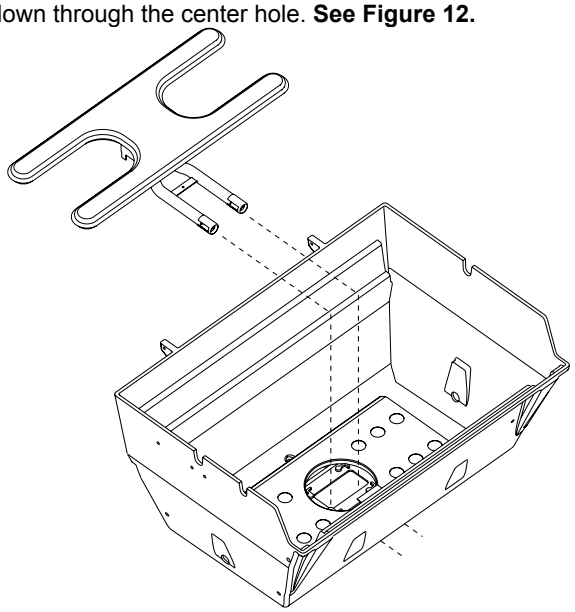
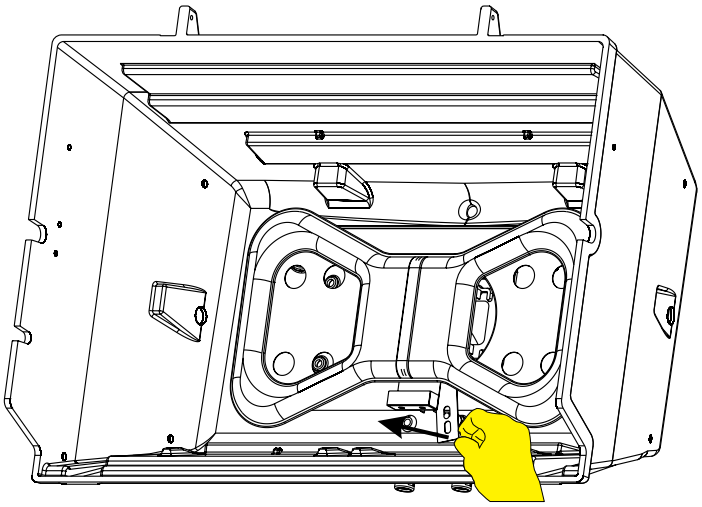


Figure 12

3. Slide the venturi on to the valve assembly.
4. Raise the unsecured end of the burner bracket and slip it over the 1/4-20 x 1 1/2 Phillips Truss Head Screw as shown in Figure 13. The screw will fit into the hole on the burner bracket.



"P" Series Shown
Figure 13

5. Slide the bridge pin through the hole in the 1/4-20 x 1 1/2 Phillips Truss Head Screw as shown in Figure 14.

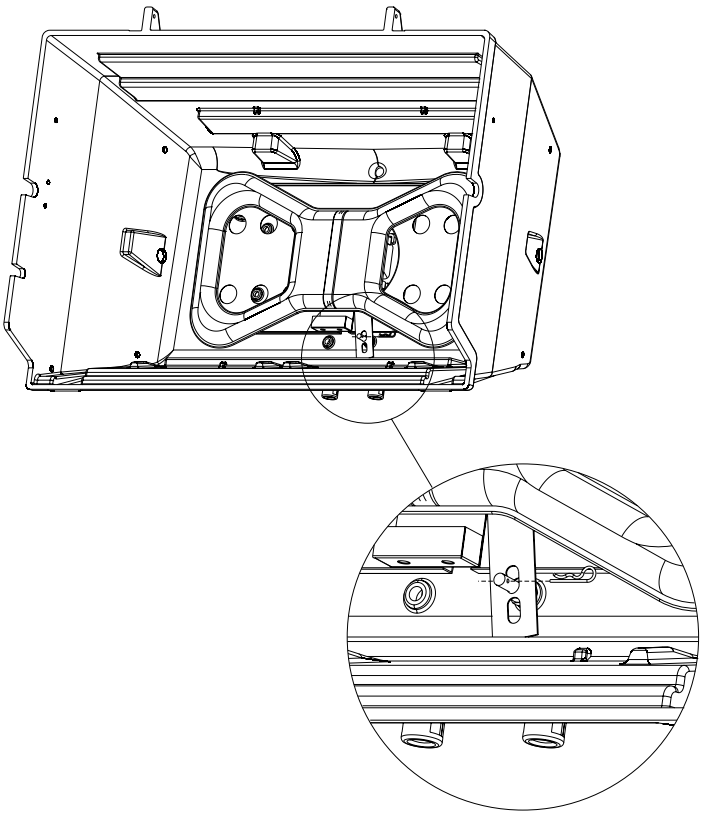


Figure 14

GRILL ASSEMBLY

Connect Ignitor Wires and Install Battery

1. Attach ground and igniter wires to the igniter as shown in Figure 15.
2. Remove push button cap and insert AA battery, positive side up as shown in Figure 15.

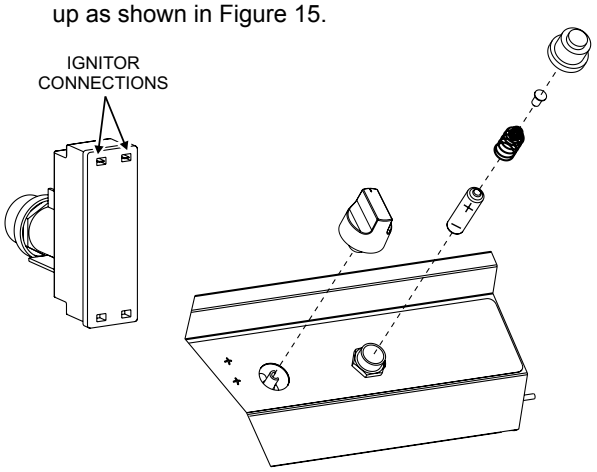


Figure 15

Handle

For your added comfort a foam grip has been provided. **See Figure 16.**

Tip: For ease of installation, slightly lubricate the front handle with liquid soap before pushing the foam grip into place.

Fasten the front handle to the grill lid with two #10-24 x 1" screws. **See Figure 17.**

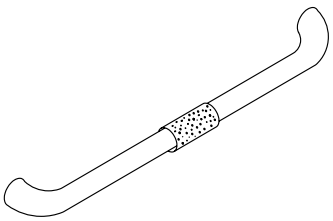


Figure 16

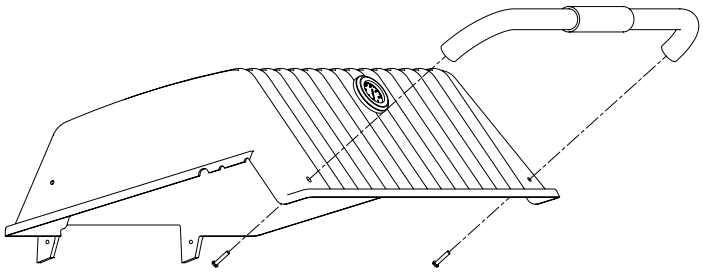


Figure 17

Install Side Shelf

1. Install side shelves or side burner to side of grill at this time.

Reinstall Grill Head Top

1. Reinstall grill top to grill bottom with 2 pins and clips removed in Figure 4.

Lid Stop

Attach the lid stop assembly to the grill bottom as shown. **See Figure 18.**

Note: H3X/H4X Series grills do not come with a Lid Stop Kit. The Lid Stop Kit is available as an accessory.

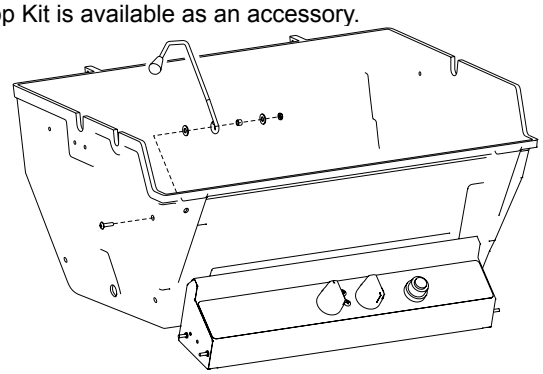
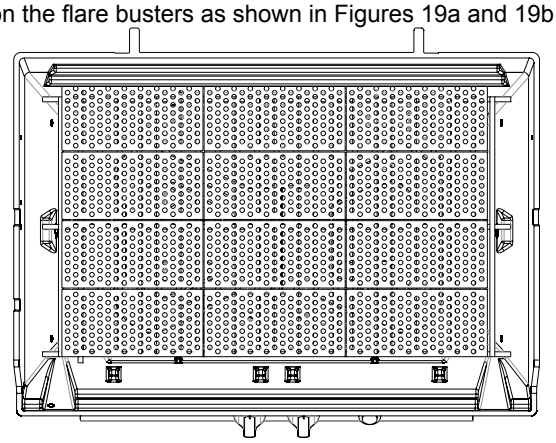


Figure 18

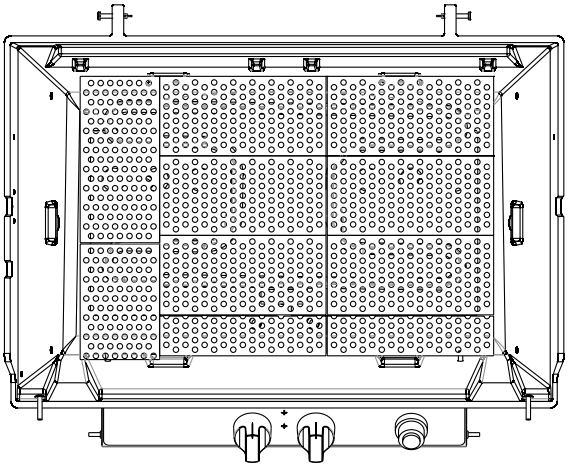
Installing Flare Busters

Place the briquet rack in the grill.

Position the flare busters as shown in Figures 19a and 19b.



P3X - Figure 19a



P4X - Figure 19b

Installing Racks

Place the briquet rack or on the burner assembly.

Position the flare busters on the briquette rack or the ceramic

briquets evenly on the briquette rack without overlapping. **See Figures 19a and 19b.**

For Smoker Shutter installation see DPA100 manual included with your P3SX grill.

Set the multilevel cooking grids. **See Figures 20a and 20b.**

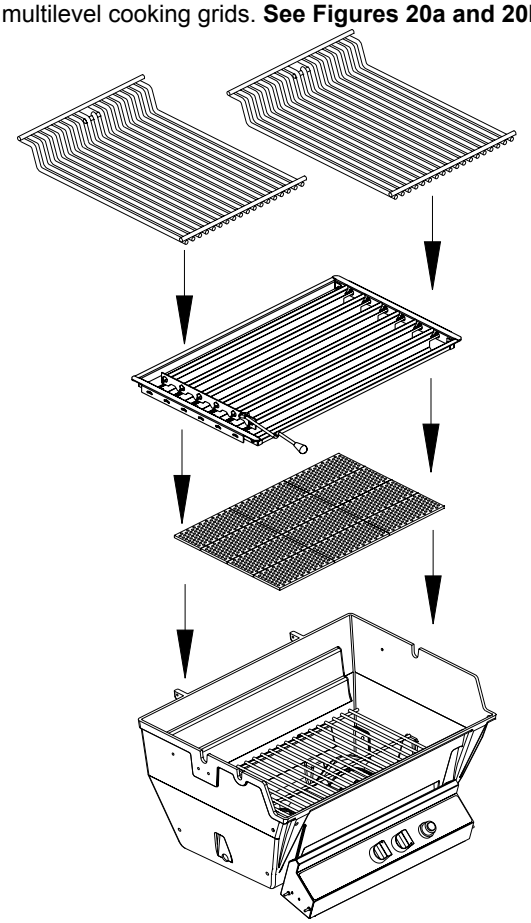


Figure 20a

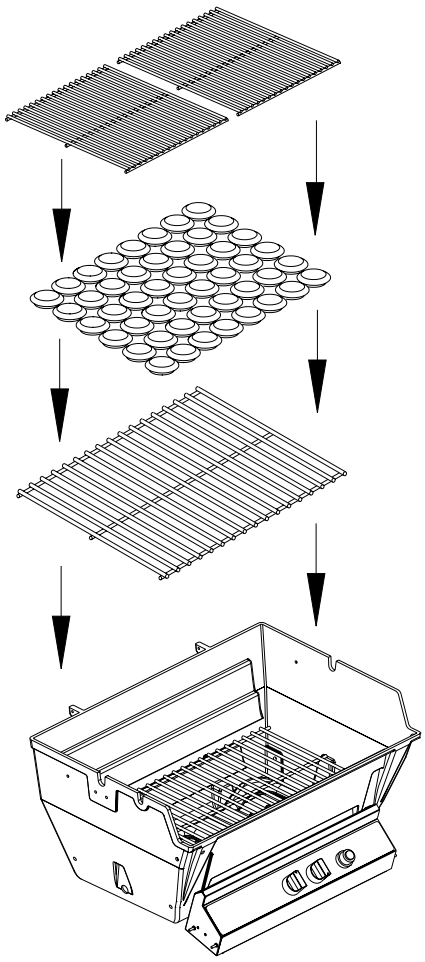


Figure 20b

Installing Char-Master Briquets
Individually place the 'Char-Master' briquets in a single layer evenly on your grill's briquet rack; DO NOT dump them onto the briquet rack. A single layer of 'Char-Master' briquets is all that's needed. DO NOT overlap or stack the briquets.
See Figure 20b.

After properly placing the 'Char-Master' briquets on your grill's briquet rack, there may be some briquets left over. Save them for future use.

Before cooking, always preheat the grill as directed by the grill's operating instructions. Hot briquets cause better, quicker cooking and better flavor.

Cleaning
Routine preheating and routine burn-off (also called post-heating) of a grill will clean the 'Char-Master' briquets. Periodically turn the briquets over while they are cool.

Note for H3 Package Owners: The side shelf must be installed before installing the Briquets and Briquet Rack.

OPERATION - PROPANE & NATURAL GAS GRILLS

Checking for Gas Leaks
Check for gas leaks every time you connect your Broilmaster® propane gas grill to a Propane gas cylinder, when a connected cylinder has not been used recently, or when either a natural or propane grill is being used for the first time.

Caution: Do not use an open flame when checking for leaks. Checking for leaks with an open flame may lead to a fire or explosion, resulting in property damage or personal injury.

To check for gas leaks:
1. Use dish washing liquid and a little water to make a soapy solution.
2. Turn OFF the knob on the control panel.
3. Turn ON the gas at the supply or cylinder. A hissing sound indicates a leak. Turn OFF the gas and repair the leak.
4. Apply the soapy water solution to all gas connections.
5. Look for bubbles. Bubbles indicate a leak.
6. If there are bubbles turn OFF the gas and repair the leak.
7. Turn the gas back ON and repeat the above procedures until all leaks are repaired.

Air Shutter Adjustment
The venturi air shutter(s) are preset at the factory so that after five minutes the burner flames are blue with well defined cones. If, after five minutes the flame is yellow, or there is a gap between the burner and the flame, adjust the venturi air shutter as follows:

1. Turn gas OFF and let the burner cool.
2. Loosen shutter set screw
3. Close the air shutter to the minimum opening.
4. Light the burner, wait five minutes and then carefully open the air shutter until the flame is blue and well defined.
5. Retighten the set screw.

Operating Instructions - Using the Ignitor
Caution: If a burner fails to light after 5 seconds, turn the burner OFF for 5 minutes, to allow the gas to clear, then try again.

1. Turn knob on the grill CLOCKWISE to the OFF position.
2. Turn ON gas at the source.
3. With the grill lid open, push and turn the burner control knob COUNTERCLOCKWISE to Hi.
4. Push and hold the ignitor button until the burner lights (approximately 5 seconds).
5. If a burner does not light, turn OFF all gas and refer to the Troubleshooting section of this manual.

Operating Instructions - Using Matches
Caution: If a burner fails to light after 5 seconds, turn the burner OFF for 5 minutes, to allow the gas to clear, then try again.

1. Turn knob on the grill CLOCKWISE to the OFF position.
2. Turn ON gas at the source.
3. Open the grill lid.
4. Insert a burning long wooden match through the lighter hole on either side of the grill. **See Figure 21.**

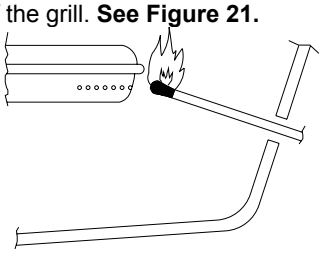


Figure 21

5. Turn the burner control knob COUNTERCLOCKWISE to HI.
6. If a burner does not light, turn OFF all gas and refer to the Troubleshooting section of this manual.

OPERATION

Before Cooking
Before cooking on a grill for the first time, it should be broken in to burn off any oil residue from the manufacturing process.

1. Raise the grill lid.
2. Light grill burner.
3. Burn on HI for ten minutes.
4. Close the lid and burn on HI for an additional ten minutes.
5. Turn OFF gas. The grill is now ready for use.

Preheating
Before cooking on a gas grill, allow the grill to preheat on HI for 5 minutes with the lid closed.
This uses very little fuel and provides better flavor.

Electrical Accessories
If an electrical accessory (e.g. rotisserie) is used on your grill, the accessory must be electrically grounded in accordance with local codes or, in the absence of local codes, with the National Electric Code, ANSI/NFPA 70. In Canada, the electrical accessory must be electrically grounded in accordance with the applicable section of the current Canadian Electrical Code, CSA C22.1.

Any electrical accessory should be equipped with a three-prong (grounding) plug, and plugged into a properly grounded three-prong receptacle or wall outlet. Do not cut or remove the grounding prong from the plug.

If an extension cord is required, use only a three-prong cord and plug into a properly grounded receptacle as described above.

Do not expose an electrical accessory to water. Avoid using any electrical accessory in wet weather as it may present a shock hazard.

Keep any electrical cord and fuel supply hose away from all heated surfaces.

MAINTENANCE

Cleaning the Grill
Caution: To prevent injury, use care when cleaning a hot grill.

Note: Do not use a commercial cleaner on the cooking grid. Do not brush grids while they are hot. Do not scrape grids.

For baked on residue use a brass (NOT STEEL) brush on the cooking grid and other components.

Burn Off
This process is much like that used in self-cleaning ovens and is most efficient when completed after each use of the grill.

Caution: Do not open the grill during the burn off process. Opening the grill during the burn off process may cause a sudden grease fire flare up that could burn your face and arms. Wait until the grill has cooled before opening.

1. Turn gas knob to HI. Close lid and allow the grill to burn for ten minutes, or until no smoke is present. Do not allow the grill to burn for more than 30 minutes.

2. Turn gas knob and supply to OFF and allow the grill to cool.

3. Wipe COOL grill with a damp cloth to remove soot.

Grill Bottom
Periodically remove cooking grids and flare guard to clean the interior of the grill. Scrape off baked on residue with a putty knife or brass brush and rinse with water. Clean the bottom air holes with a small knife.

Burner Maintenance
Stainless steel burners often turn reddish brown after use. This does not affect the performance of the grill. When cleaning the interior of the grill, remove the burners and clean with a brass brush. Wash with water and a mild detergent.

Grease Cup
Empty periodically.

Venturi Tubes
The venturi tubes allow air and gas to mix prior to burning, thus ensuring an efficient flame. Spiders or other small insects may build webs or nests inside the tubes obstructing air flow. Fire, or flashback, can occur, in and/or around obstructed venturi tubes and can cause damage to components beneath the grill or an unsafe condition. To reduce risk, inspections and cleaning should be performed at least twice monthly when spiders are active. If the grill has been unused for an extended period of time inspect the tubes before using the grill.

Clean venturi tubes as follows:

1. Remove the cooking grids and briquette rack.
2. Remove the burner from the grill.
3. Lay the burner face down and remove the four retaining screws from the venturi tube plate and the burner. **See Figure 22.**
4. Use a small flexible brush to remove any debris for the tube(s).
5. Flush with water.
6. Allow the tube(s) to dry before reinstalling.
7. Reinstall the venturi tubes and burner.

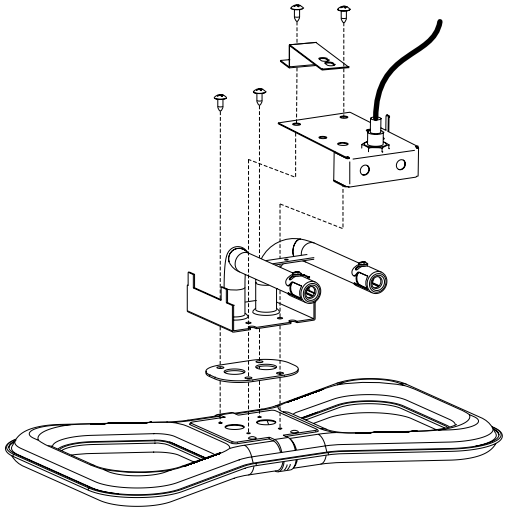


Figure 22

Note: Bowtie burner is shown. Follow the same steps for the H burner assembly.

Exterior
Clean regularly with a solution of mild detergent and hot water. Touch-up paint is available from your dealer. Broilmaster® protective covers are recommended. Stainless steel components can be easily cleaned with a spray-on stainless steel cleaner found in most hardware stores.

Briquettes
If the briquettes did not come clean during burn off, after cooling turn them over. The residue will burn off during warm-up for the next use.

TROUBLESHOOTING

Although the manufacturer has attempted to ensure that your grill will operate properly and satisfactorily, sometimes problems do arise. The following troubleshooting guide lists several possible problems and their probable cause and solution.

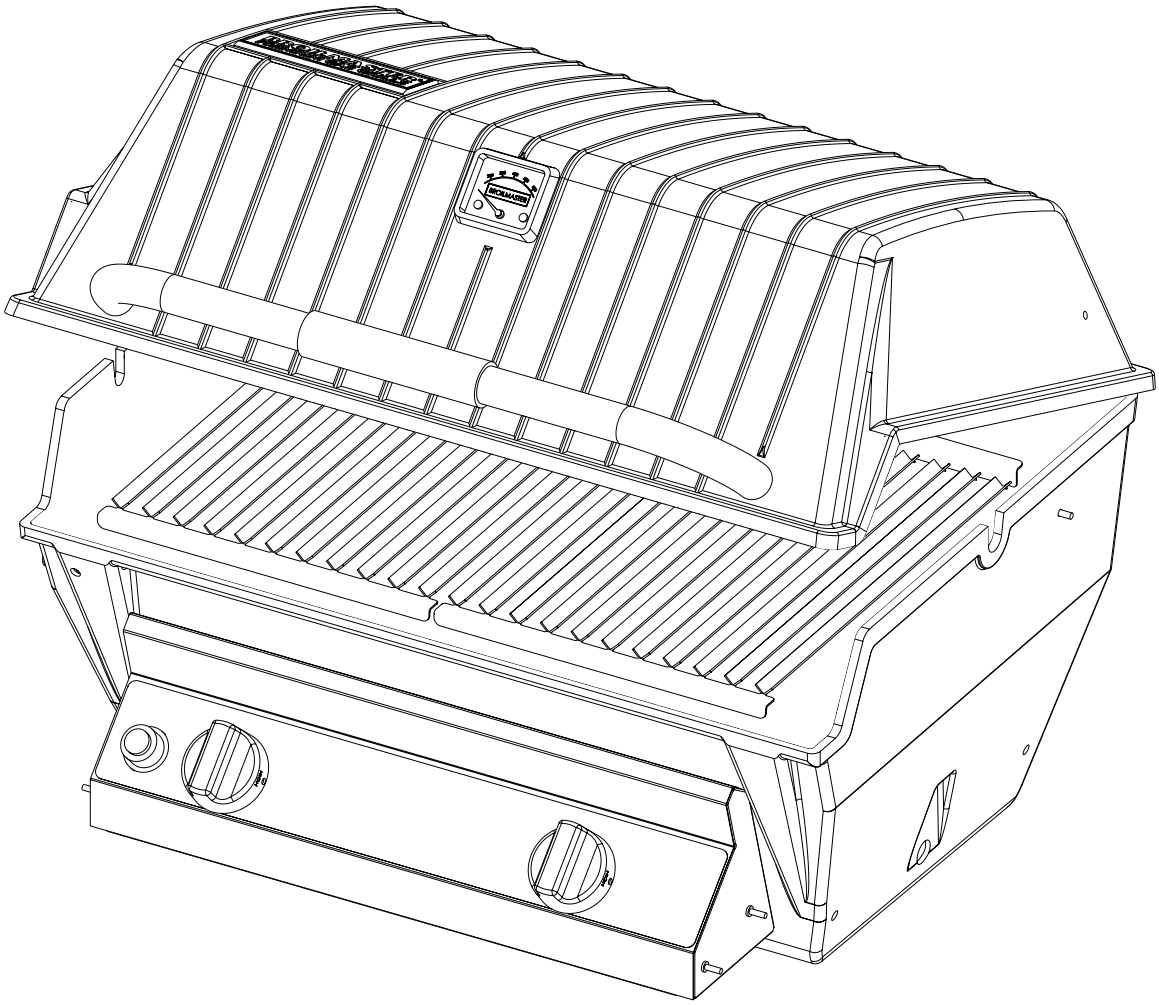
Problem	Cause	Solution
Burner will not light.	Gas injector not inserted in venturi tube.	Realign/engage gas injector with the venturi tube.
	Clogged gas injector.	Remove gas injector from gas control assembly and clean.
	Obstruction in gas line.	For propane models, ensure gas valve on cylinder is OFF. Remove flexible hose and blow out any debris.
	Spider webs in venturi tubes.	Clean venturi tubes. See Maintenance Section.
	Misalignment of collector box and burner.	Position electrode properly. Clean collector box.
	Out of gas	Refill LP gas cylinder. If natural model, turn on gas at source.
	Dead battery.	Replace with AA Alkaline battery.
Inadequate grill temperature.	Poor combustion.	Adjust air shutter.
	Misalignment of venturi tube and gas injector.	Realign/engage gas injector with the venturi tube.
	Inadequate gas pressure.	Contact gas supplier for assistance.
	Incorrect orifice/valve setting.	Refer to gas conversion instructions in this manual.
Flames blow out.	Cold grill.	Preheat grill at least 5 minutes on HI with the grill lid closed.
	Misalignment of burner tube and gas injector.	Realign/engage gas injector with the burner tube.
	Poor combustion.	Adjust air shutter.
	Extreme wind.	Turn or shield grill.
Yellow flames.	Air shutter improperly set.	Open air shutter
	Spider webs in venturi tubes.	Clean venturi tubes. See Maintenance Section.
	Seasoning salts on burner.	Clean by washing burner with mild detergent.
	Oil film on burner.	Allow burner to operate on HI for 10-15 minutes.

OPTIONS
By Broilmaster

BROILMASTER®
PREMIUM GAS GRILLS

Owner's Manual For Models

R3-1, R3N-1 ,R3B-1, R3BN-1



GAS-FIRED
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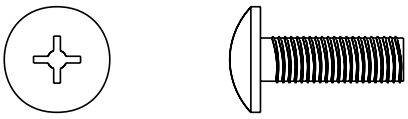
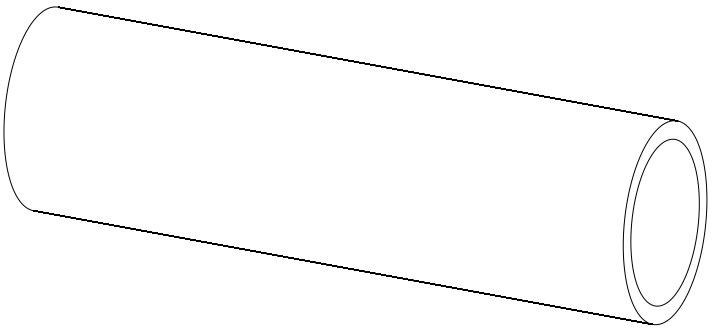
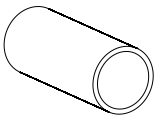
HARDWARE PACK



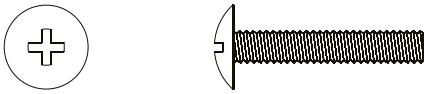
SCREW 1/4-20 X 3/4 PH TRUSS HEAD SS



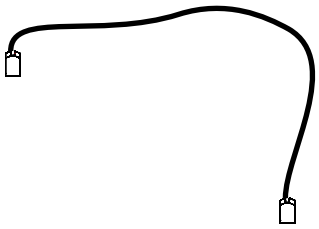
FOAM GRIP



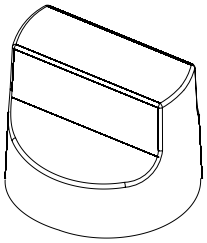
SPACER, IGNITOR
R3B ONLY



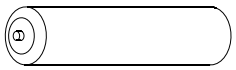
SCREW #10-24 X 1 PHILLIPS TRUSS STAINLESS



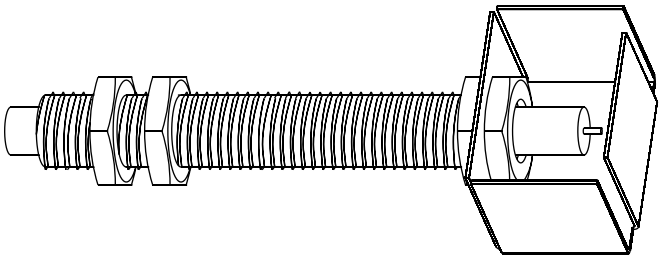
GROUND WIRE
R3 ONLY



KNOB



BATTERY, AA



COLLECTOR BOX ASSEMBLY
R3B ONLY

DESCRIPTION	PART NUMBER	QUANTITY SUPPLIED
Screw 1/4-20 x 3/4 PH Truss Head SS	B063096	6
Spacer, Ignitor (R3B Only)	B101082	1
Screw #10-24 x 1 Phillips Truss Stainless	B073978	2
Knob	R3918	2
Battery, AA	N/A	1
Foam Grip	B073097	1
Ground Wire (R3 Only)	B072684	1
Collector Box Assembly (R3B Only)	B101212	1

SAFETY PRECAUTIONS

Safety Practices to Avoid Personal Injury

When properly cared for your Broilmaster Infrared Grill will give safe, reliable service for many years. However, extreme care must be used since the grill produces intense heat, which can increase accident potential. When using this appliance, basic safety practices must be followed, including the following:

Read this Installation Instructions and Owner's Manual carefully and completely before using your grill to reduce the risk of fire, burn hazard or other injury.

Begin by ensuring proper assembly.

Do not repair or replace any part of the grill unless specifically recommended in this manual. All other service should be referred to a qualified technician.

For personal safety, wear proper apparel. Loose fitting garments or sleeves should never be worn while using this appliance. Some synthetic fabrics are highly flammable and should not be worn while cooking. Never let clothing, pot holders or other flammable materials come in contact with or too close to any grate, burner or hot surface until it has cooled. Fabric may ignite and result in personal injury.

Use only dry pot holders: moist or damp pot holders on hot surfaces may cause burns from steam. Do not use a towel or bulky cloth in place of pot holders. Do not let pot holders touch hot portions of the grilling grids.

Only certain types of glass, heat-proof glass ceramic, earthenware, or other glazed utensils are suitable for grill use. Use of these types of materials may break with sudden temperature changes.

Grease is flammable. Let hot grease cool before attempting to handle it. Avoid letting grease deposits collect in the bottom of the grill. Clean often.

Do not use aluminum foil to line the grilling grids or grill bottom. This can severely upset combustion airflow or trap excessive heat in the control area. The result of this can be melted knobs, igniters and increased chance of personal injury. The drip tray accessory may be lined with aluminum foil.

Children should not be left alone or unattended in an area where the grill is being used. Never allow them to sit, stand or play on or around the grill at any time. Do not store items of interest to children around or below the grill or in the cart. Never allow children to crawl inside of a cart.

Do not heat unopened food containers as a build-up of pressure may cause the container to burst.

Use a covered hand when opening the grill lid. Never lean over an open grill.

When lighting a burner, always pay close attention to what you are doing. Be certain you are depressing the igniter button. When using the grill: do not touch the grilling grids, burner, warming rack or immediate surrounding area as these areas become extremely hot and could cause burns.

For proper lighting and performance of the burners keep the ports clean. The burners will only operate in one position and must be mounted correctly for safe operation.

Clean the grill with caution. Avoid steam burns; do not use a wet sponge or cloth to clean the grill while it is hot. Some cleaners produce noxious fumes or can ignite if applied to a hot surface.

⚠ **Insect Warning** - Spiders and insects can nest in the burners of this and any other grill, and cause the gas to flow from the front of the burner. This is a very dangerous condition, which can cause a fire to occur behind the valve panel, thereby damaging the grill and making it unsafe to operate. Inspect the grill at least twice per year.

Be sure all grill controls are turned off and the grill is cool before using any type of aerosol cleaner on or around the grill. The chemical that produces the spraying action could, in the presence of heat, ignite or cause metal parts to corrode. Do not operate the grill under unprotected combustible construction. Use only in well ventilated areas. Do not use in buildings, garages, sheds, breezeways or any enclosed areas.

Keep the area surrounding the grill free from combustible materials, trash, or combustible fluids and vapors such as gasoline or charcoal lighter fluid. Do not obstruct the flow of combustion and ventilation air. Keep the back of the cart free and clear from debris.

If the unit is stored indoors ensure that it is cool. If propane is used, the cylinder must be unhooked and the propane cylinder stored outside in a well-ventilated area, out of reach of children.

Never use the grill in windy conditions. If located in a consistently windy area (oceanfront, mountain top, etc) a windbreak will be required. Always adhere to the specified clearance.

Keep any electrical supply cord, or the optional rotisserie motor cord away from the heated areas of the grill. Do not use the grill for cooking excessively fatty meats or products, which promote flare-ups.

OUTDOOR USE ONLY
Your Broilmaster Infrared Grill is designed for outdoor use only and must not be installed in or on recreational vehicles and/or boats.

NEVER USE A DENTED OR RUSTY PROPANE TANK. SHUT OFF TANK WHEN NOT IN USE.

GRILL ASSEMBLY

1. Mount grill onto cart, post or base per the mounting instructions.
2. Place wind deflector (flange side up) onto four raised bosses located on the interior bottom of the grill. **See Figure 23.**

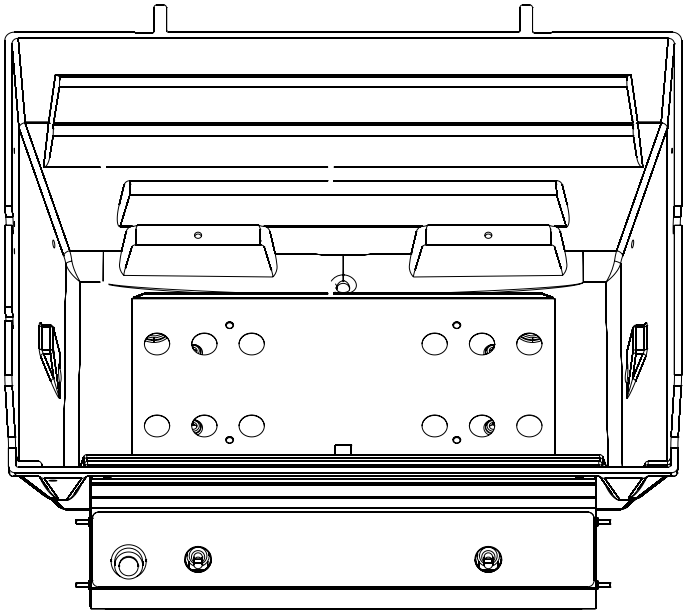


Figure 23

3. R3B model only: Slide ignitor spacer onto collector box assembly and secure with nuts. **See Figure 24.**

Attention: Do not cut or damage ignitor wires.

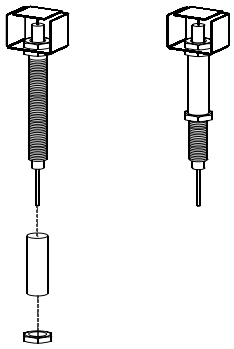
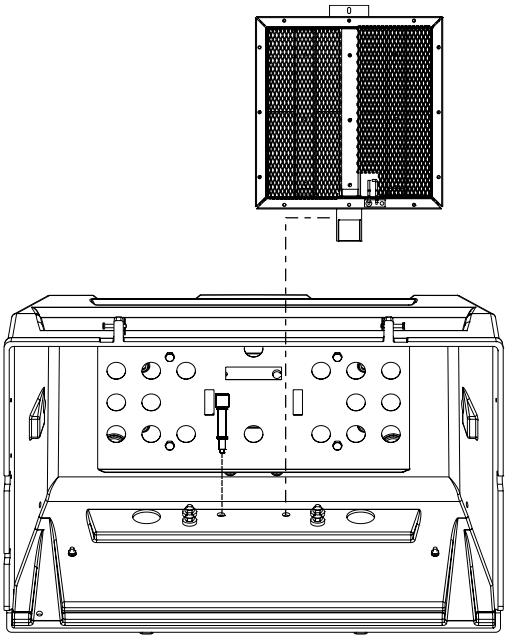


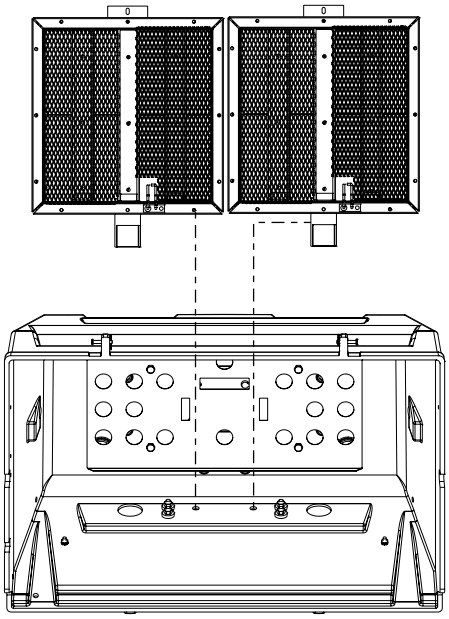
Figure 24

Note: If a side shelf is to be installed, do so referring to the side shelf instructions before proceeding to burner installation.

4. R3B model only: Insert collector box assembly into hole adjacent to burner. The opening of the collector box should be facing the burner. The infrared ignitor wire slides through the empty hole next to the burner. **See Figure 25.**



R3B



R3

Figure 25

GRILL ASSEMBLY

5. Place blue flame burner on the left and infrared on the right into grill and insert burner tubes over orifice fittings on valve. Secure each burner and burner shield with one 1/4-20 x 3/4 phillips screw and nut. **See Figures 26, 27, and 28**. R3 model only: Use lugs to attach ground wire before screwing the two infrared burners on. **See Figure 28.** Tuck ground wire underneath the burners to prevent damage.

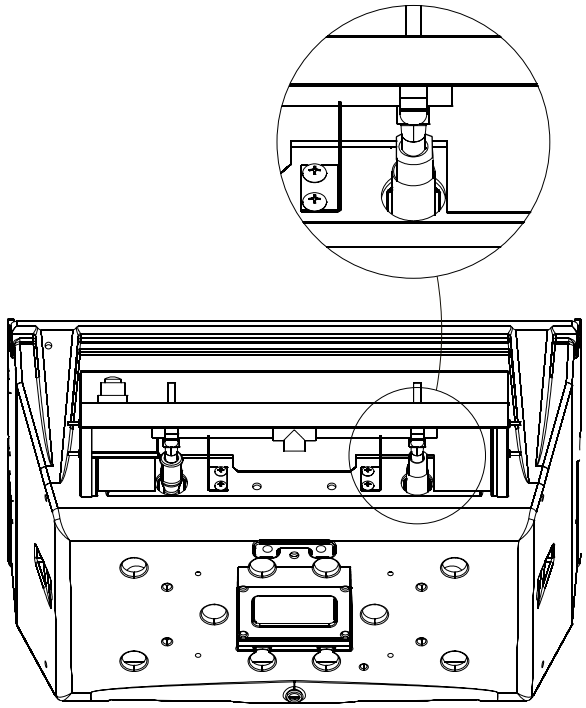
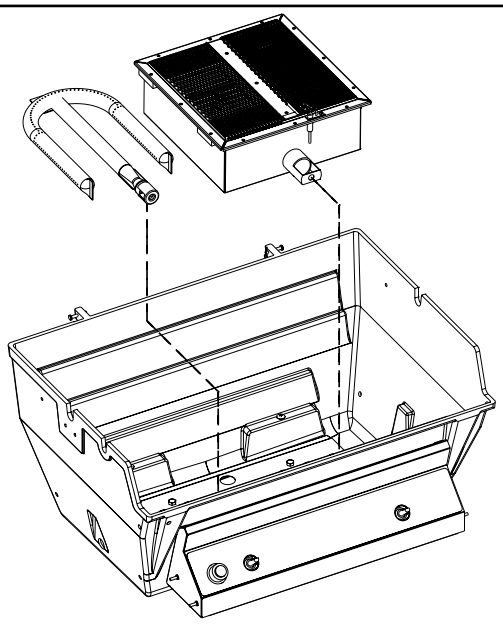
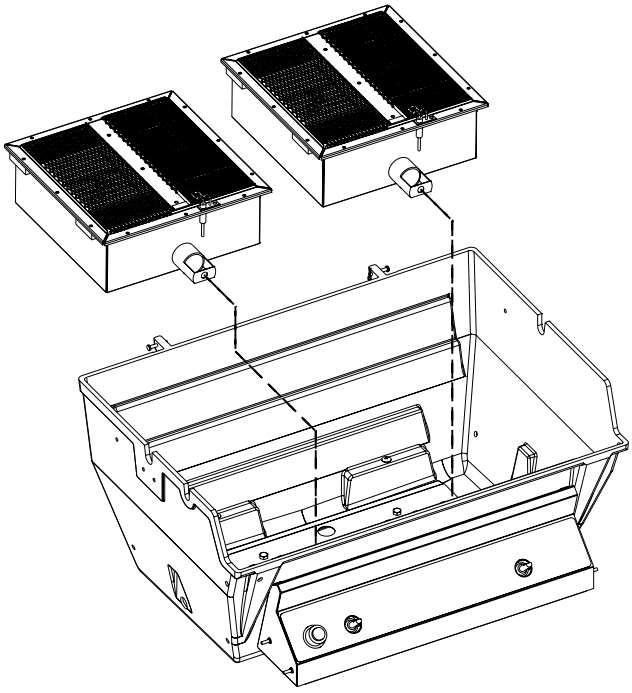


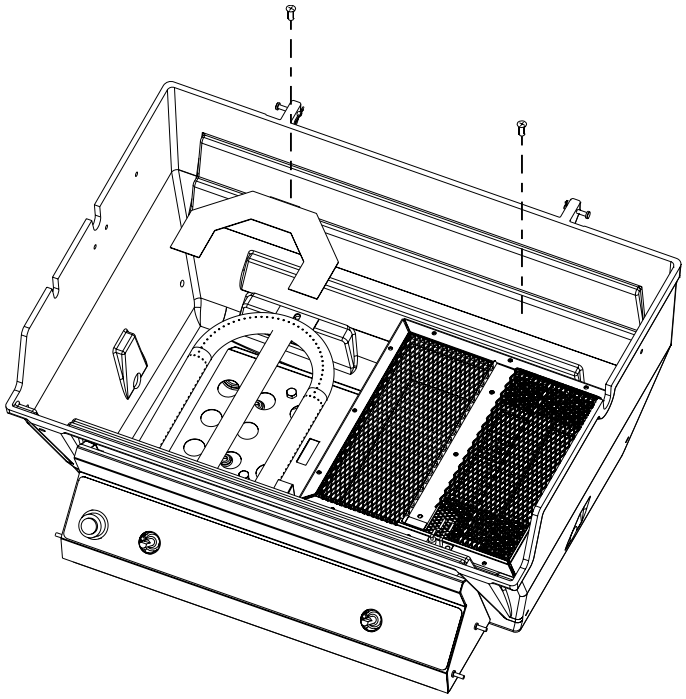
Figure 27



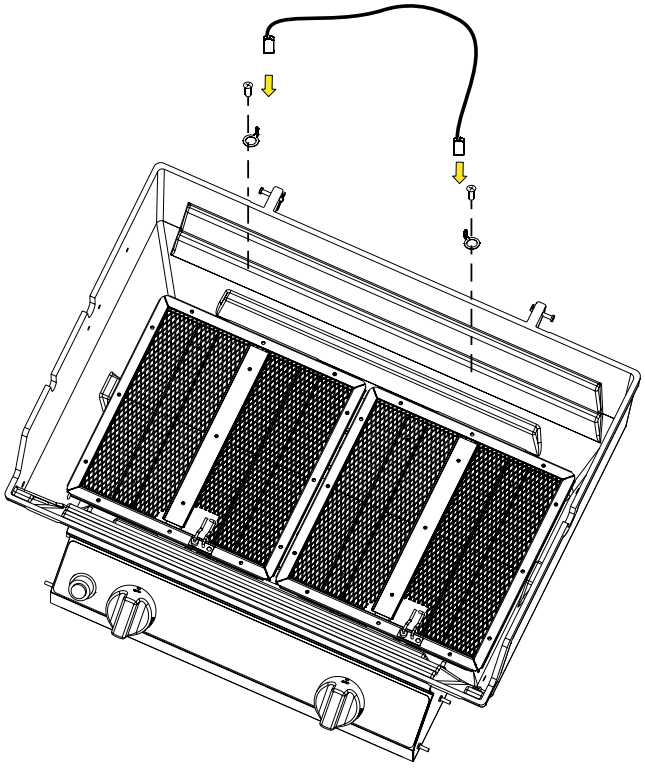
R3B



R3
Figure 26



R3B



R3
Figure 28

6. Remove ignitor from the control panel by unscrewing the ignitor button and nut. Attach ignitor wires to terminals on the ignitor. **See Figure 29.**

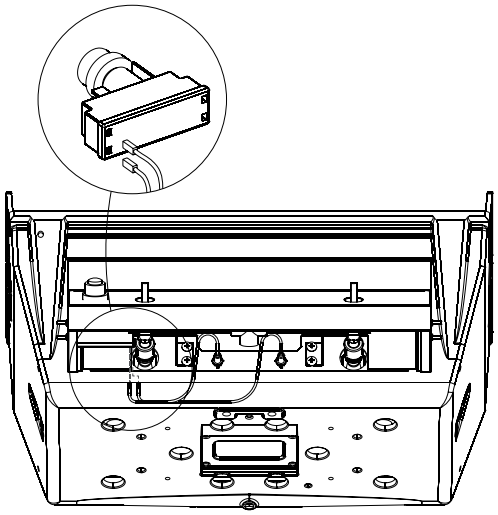


Figure 29

7. Re-attach the ignitor to the control panel, then tighten nut and insert AA battery, positive side up, and replace ignitor button. **See Figure 30.**

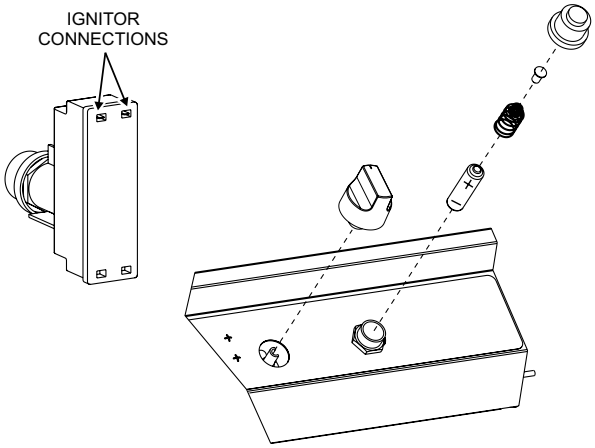


Figure 30

8. Install foam grip on lid handle. **See Figure 31**.
Tip: For ease of installation, slightly lubricate the lid handle with liquid soap before pushing the foam grip into place.

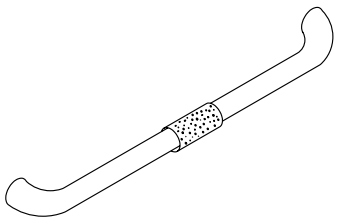


Figure 31

GRILL ASSEMBLY

9. Fasten the lid handle to the grill body top with two #10-24 x 1" screws. **See Figure 32.**

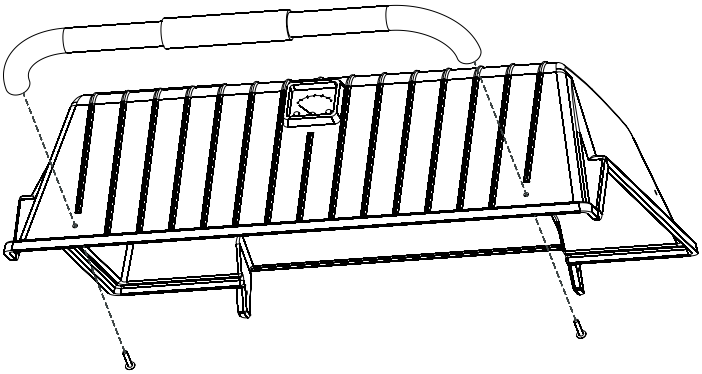


Figure 32

10. R3B models only: Place the briquet rack over the blue flame burner only. **See Figure 33.**
11. R3B models only: Position the Char-Master briquet evenly on the briquet rack without overlapping. **See Figure 33.**

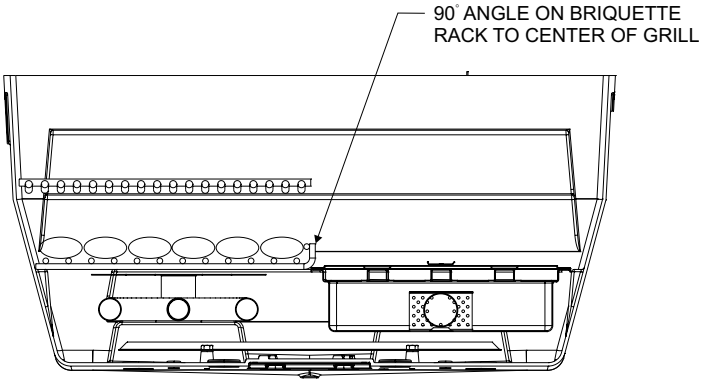
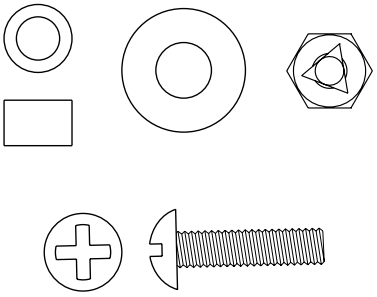


Figure 33

12. Set the cooking grids.
    Note: V-channel cooking grids are to be used over infrared burners only.
13. Push valve knobs on to valves.

Note: Control Housing is used only when installing grill head onto cart. See the instructions that come with the cart for Control Housing installation instructions.

Lid Stop
Attach the lid stop assembly to the grill bottom as shown in Figure 34.



Lid stop assembly hardware

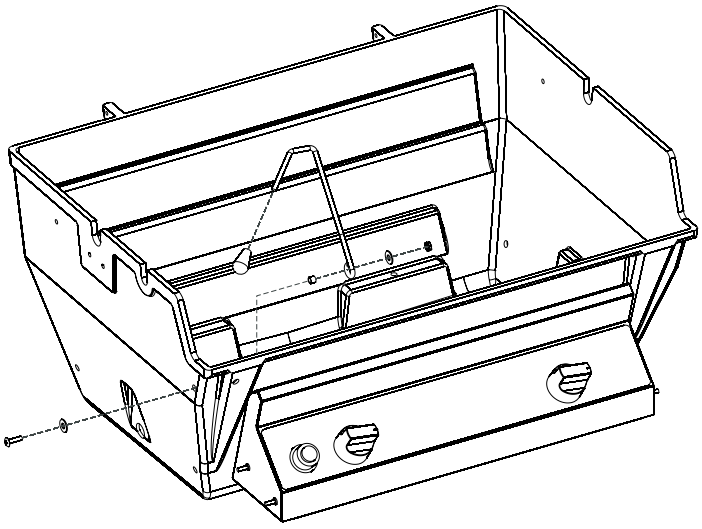
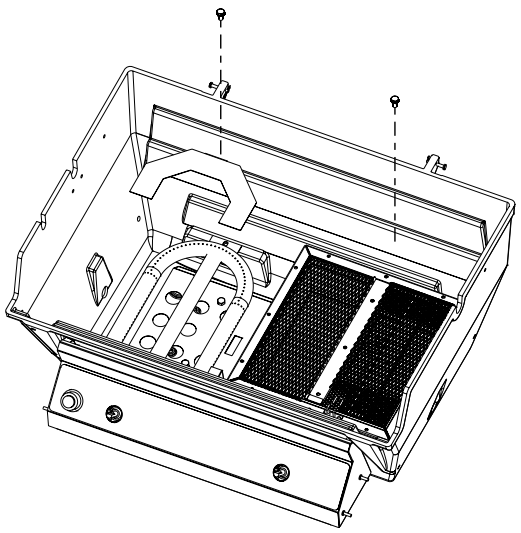


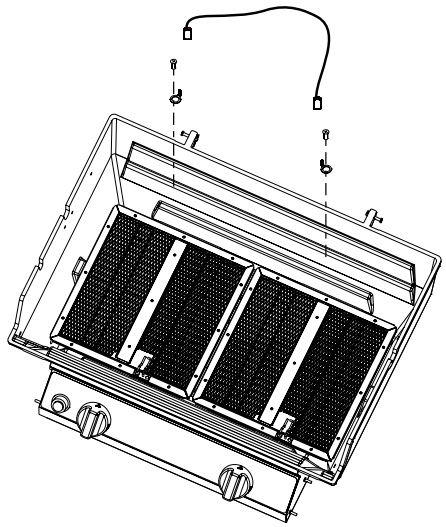
Figure 34

GAS CONVERSION TO NATURAL GAS

1. R3B Grills: Remove cooking grids, briquets and briquet rack from grill.
2. Blue Flame Burner: Remove blue flame burner shield and blue flame burner from grill (one 1/4-20 x 3/4 phillips screw for burner). **See Figure 35.** Infrared Burner: Remove ignitor wire, lugs and infrared burner from grill (one 1/4-20 x 3/4 phillips screw for each burner). **See Figure 35.**



R3B



R3

Figure 35

3. Remove LP burner orifices marked 1.25 mm for R3B. Remove LP burner orifice marked 1.3 mm for R3. **See Figure 36.**

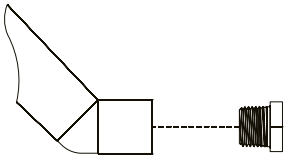


Figure 36

4. Install natural gas burner orifice marked 49 into each orifice fitting. Apply pipe compound to threads on orifices prior to installation.
5. Blue Flame Burner: Place burner shield and burners into grill and insert burner tubes over orifice fittings. Secure each burner with one 1/4-20 x 3/4 phillips screw from Step 2.
   Infrared Burner: Place infrared burners, ignitor, and lugs into grill and insert burner tubes over orifice fittings. Secure each burner with one 1/4-20 x 3/4 phillips screw from step 2.
6. Grasp valve knobs and remove from valves.
7. The low input adjustment screws are located inside the two valve stems. Use a small screwdriver to turn each adjustment screw clockwise 1/4 turn (90 degrees). When valves are in the "OFF" position, the slot in the adjustment screw should be vertical. **See Figure 37.**

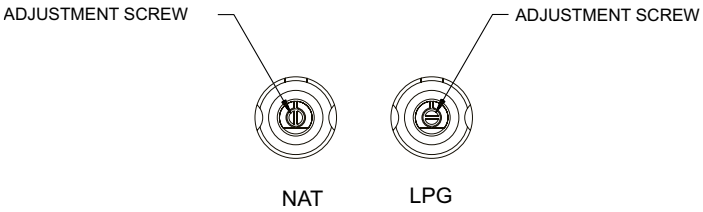


Figure 37

8. Remove the hose and regulator from the gas connection on grill with adjustable wrench.
9. Connect the grill to the natural gas supply.
   Attention: Before lighting your grill check all gas connections including the adjustment screws in valve stems for gas leaks with a soapy water mixture.
   Caution: Do not use the grill if a gas leak is detected until gas leak is corrected. If a gas leak can not be stopped, do not use grill. You must contact a qualified repair person.
10. Push valve knobs onto valves.
11. Apply the completed conversion label adjacent to the rating plate label on the grill.
12. The natural gas inlet pressure at the grill is to be set at 7.0" of inlet pressure.
13. Ignite burner on grill and observe flame pattern. If flame is yellow in color or flame is lifting off burner, the air shutter on blue flame burners only will require adjustment.
14. Beneath the control panel you can access the air shutter which is located on the end of the burner tube.
15. Loosen phillips screw at air shutter, open air shutter for a yellow flame or close air shutter for a lifting flame. Tighten phillips screw at air shutter.
16. Ignite burners on grill to verify burner flame characteristics.
17. Replace briquet rack and briquets and reinstall cooking grids.

Installation must conform to local codes or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/NFPA 54, Natural Gas and Propane Installation Code, CSA B149.1, or Propane Storage and Handling Code, B149.2.

Caution: The grill and its individual shutoff valve must be disconnected from the gas supply piping system during any system pressure testing at test pressures in excess of 1/2 PSIG.

Caution: The grill must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 PSIG.

INFRARED COOKING

General Overview
Broilmaster Infrared gas grills make it possible for you to enjoy cooking outdoors quickly and effortlessly. In minutes, you can enjoy steaks, hamburgers, poultry, pork chops, fish and other foods. You can also cook more slowly if you wish. Broilmaster's optional accessories are designed to enhance your grill's versatility.

Infrared Searing Method
Searing is a process that seals juices in food by cooking with intense heat for a short period of time. The juices stay in the food where they belong and the outside gets coated with flavorful smoke. For best results, follow these procedures when cooking.

Searing Method
1. Follow the Burner Ignition procedures and operate the grill for 5 minutes or until the burners glow uniformly.
2. Set the Burner Output Knob to HIGH and place the food on the cooking grid for 1 - 2 minutes, or until food lifts without sticking.
3. Turn the food and repeat Step 2.
4. Depending upon your taste, continue cooking on HIGH, turning the food frequently, or adjust the Burner Output Knob to a setting between LOW and "medium" and continue cooking until the food is cooked to your satisfaction. Turn as necessary (generally every one to three minutes).

During the searing period, flashing might occur when juices vaporize on contact with the cooking grid and burner surfaces. The flashes and smoke greatly enhance the flavor of food.
The intense infrared energy generated by your Broilmaster Grill has other advantages. For example, food is evenly cooked throughout. Also, upon contact with the cooking grids and burners, drippings vaporize into flavorful smoke that cooks back into the food.

Flare-Up Control
NOTICE: NEVER DOUSE A FLARE-UP WITH LIQUID. IT WILL DAMAGE THE BURNER AND VOID THE WARRANTY!

To minimize flame flare-ups:
- Trim excess fat from meat.
- Reduce heat and reposition foods away from flare-ups when the occur.
- Prevent excess grease build up by periodically cleaning cooking grids.

Helpful Hints
1. Use the proper tools. Long handled tongs, spatula, knife, and mitts or a hot pad for handling hot items. When turning or moving foods, use tongs or a spatula, instead of a fork. Piercing the food with a fork allows the natural juices and flavor to escape.
2. Monitor meat temperature. Bring large cuts of meat, roasts, or fowl to room temperature before cooking. Smaller meat cuts such as hamburgers, hot dogs, or small steaks may be cooked directly from the refrigerator. Note: Broilmaster does not recommend cooking portion meats from a frozen state.
3. Start slowly. Infrared grilling is unlike other outdoor cooking methods. It may take time to get used to the fast cooking process. As a benchmark, foods which generally cook in 20 minutes or less on conventional grills cook in about one-half the conventional time on a Broilmaster infrared grill. Please refer to the Infrared Cooking Sample Times on page 42.

Indirect Cooking with a Broilmaster Infrared Grill
Indirect cooking is a slower process used to prepare large main dishes - roasts, hams, turkeys, etc. Foods are placed on one side of the grill and the other side is lighted to produce heat.
To protect the infrared burner from damage, place a heavy-duty disposable aluminum pan over the burner to catch drippings.

Note: Make sure the aluminum pan is the same size or larger than the infrared burner. Any liquids that land on the burner while it is not burning may cause it to break when ignited.

The pan may be filled part-way with liquid (water, marinade, etc.) to enhance the moisture content of the meat, but take special care not to spill anything onto the burner when adding liquids or when removing the pan after cooking.

INFRARED COOKING SAMPLE TIMES

FOOD	FOOD "DONENESS"	APPROXIMATE COOKING TIME WITH INFRARED
Steak Pieces - 1" Thick	Medium/Medium Rare	4 Minutes, 2 minutes per side
	Medium Rare	6 Minutes, Turn every 2 minutes
	Medium Well	8 Minutes, Turn every 2 minutes
	Well	10 Minutes, Turn every 2 minutes
Steak - 1" Thick	Medium Rare	4 Minutes, 2 minutes per side
	Medium Well	8 Minutes, Turn every 2 minutes
	Well	10 Minutes, Turn every 2 minutes
Pork Chops	Medium Well	6 Minutes per side
	Well	7 Minutes per side
Hot Dogs	Done	4 Minutes, Turn as needed
Shrimp - 20 to 30 count	Done	4 Minutes, Turn as needed
Beef Kabob - 1 1/2" Meat Cubes	Done	12 Minutes, 1/3 Turn every 2 minutes
Hamburger - 1" Thick	Done	14 Minutes, Turn every 2 minutes
Hamburger - 1/2" Thick	Medium/Medium Well	7 Minutes, Turn every 2 minutes
	Well	9 Minutes, Turn every 2 minutes
Boneless Chicken Breast - 3/4" Thick	Rare - NOT RECOMMENDED	14 Minutes, Turn over every 2 minutes
	Done	16 Minutes, Turn over every 2 minutes
	Well Done - NOT RECOMMENDED	18 Minutes, Turn over every 2 minutes
Chicken Breast - Bone In	Done	40 Minutes (Low), Turn as needed
Chicken Legs - Bone In	Done	15 Minutes (Low), Turn as needed
Chicken Wings - Bone In	Done	15 Minutes (Low), Turn as needed
Spare Ribs	Done	8 Minutes per Side (High), Turn every 4 minutes

Cooking temperature setting is on HI unless otherwise specified.

Marinades and rubs will cause flare-ups. Use caution with cooking foods seasoned in this manner.

Caution: Under-cooked and raw meat can cause serious illness. Cook all meats to USDA recommended internal temperatures.

Cooking times are provided as guideline only. For the best results use a high quality instant-read out thermometer and follow the USDA recommended temperatures (www.usda.gov keyword "Is it done yet?").

NOTICE: NEVER DOUSE A FLARE-UP WITH LIQUID. IT WILL DAMAGE THE BURNER AND VOID THE WARRANTY!

OPERATION - PROPANE & NATURAL GAS GRILLS

Checking for Gas Leaks
Check for gas leaks every time you connect your Broilmaster propane gas grill to a Propane gas cylinder, when a connected cylinder has not been used recently, or when either a natural or propane grill is being used for the first time.

Caution: Do not use an open flame when checking for leaks. Checking for leaks with an open flame may lead to a fire or explosion, resulting in property damage or personal injury.

To check for gas leaks:
1. Use dish washing liquid and a little water to make a soapy solution.
2. Turn OFF the knob on the control panel.
3. Turn ON the gas at the supply or cylinder. A hissing sound indicates a leak. Turn OFF the gas and repair the leak.
4. Apply the soapy water solution to all gas connections.
5. Look for bubbles. Bubbles indicate a leak.
6. If there are bubbles turn OFF the gas and repair the leak.
7. Turn the gas back ON and repeat the above procedures until all leaks are repaired.

Air Shutter Adjustment For R3B Series Only
The burner (venturi) tube air shutter is preset at the factory so that after five minutes the burner flames are blue with well defined cones. If, after five minutes the flame is yellow, or there is a gap between the burner and the flame, adjust the burner (venturi) tube air shutter as follows:
1. Turn gas OFF and let the burner cool.
2. Beneath the control panel you can access the air shutter(s) which are located on the end of the burner tubes.
3. Loosen shutter set screw
4. Close the air shutter to the minimum opening.
5. Light the burner, wait five minutes and then carefully open the air shutter until the flame is blue and well defined.
6. Retighten the set screw.

Operating Instructions
Before each use, inspect all hoses. If it is evident there is excessive abrasion or wear, or the hose is cut, it must be replaced prior to using your Broilmaster grill. Call your local Broilmaster dealer for a replacement.

Using the Ignitor

Caution: If a burner fails to light after 5 seconds, turn the burner OFF for 5 minutes, to allow the gas to clear, then try again.

Note: Each burner must be lit individually.
1. Turn knob on the grill CLOCKWISE to the OFF position.
2. Turn ON gas at the source.
3. With the grill lid open, push and turn the burner control knob COUNTERCLOCKWISE to Hi.
4. Push and hold the ignitor button until the burner lights (approximately 5 seconds).
5. If a burner does not light, turn OFF all gas and refer to the Troubleshooting section of this manual.
6. Repeat steps 3 through 5 for other burner.

Using Matches to Light the Grill

Caution: If a burner fails to light after 5 seconds, turn the burner OFF for 5 minutes, to allow the gas to clear, then try again.

Note: Each burner must be lit individually.
1. Turn knob on the grill CLOCKWISE to the OFF position.
2. Turn ON gas at the source.
3. Open the grill lid.
4. For Blue Flame grills, insert a burning long wooden match through the lighter hole on the left side of the grill. For Infrared grills, insert the lighting stick with a long wooden match attached through the cooking grid to ignite the infrared burner from the top. **See Figure 38.**
5. Turn the burner control knob COUNTERCLOCKWISE to HI.
6. If a burner does not light, turn OFF all gas and refer to the Troubleshooting section of this manual.
7. Repeat steps 3 through 6 for other burner.

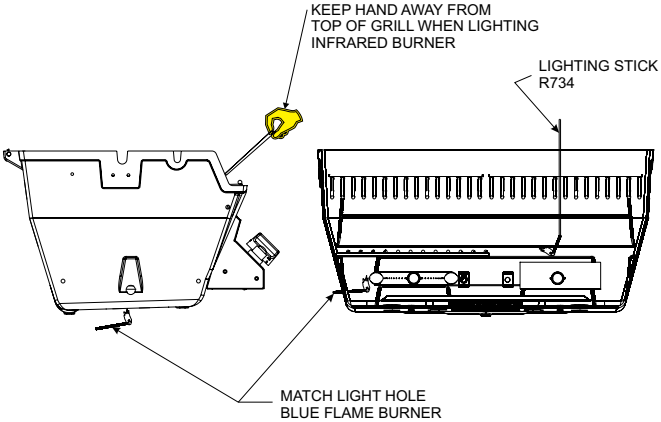


Figure 38

OPERATION - PROPANE & NATURAL GAS GRILLS

Before Cooking

Before cooking on a grill for the first time, it should be operated to burn off any oil residue from the manufacturing process.

1. Raise the grill lid.
2. Light grill burners.
3. Burn on HI for ten minutes.
4. Close the lid and burn on LOW for an additional ten minutes.
5. Turn OFF gas. The grill is now ready for use.

Note: NEVER close the lid with the infrared burner on HI.

Preheating

Before cooking on a gas grill, allow the grill to preheat on HI for 5 minutes with the lid open.
This uses very little fuel and provides better flavor.

⚠ WARNING!

HOOD MUST BE OPEN WHEN LIGHTING GRILL BURNERS, WARMING UP THE GRILL, AND WHILE GRILLING.
HOOD MAY ONLY BE CLOSED WHILE INFRARED IS IN USE AND BOTH KNOBS ARE SET ON "LOW," OR WHILE BLUE FLAME BURNER IS IN USE ONLY, OR WHEN THE GRILL IS NOT IN USE.

AVOID WATER DAMAGE TO BURNER!

NEVER ALLOW WATER TO CONTACT THE BURNER AS DAMAGE WILL RESULT.
WATER DAMAGE IS NOT COVERED BY YOUR BROILMASTER WARRANTY.

BLUE FLAME BURNER MAINTENANCE

Cleaning the Grill

Caution: To prevent injury, do not clean a hot grill.

Note: Do not use a commercial cleaner on the cooking grids. For baked on residue use a grill brush on the cooking grid and other components.

Burn Off
This process is much like that used in self-cleaning ovens and is most efficient when completed after each use of the grill.
Caution: Do not open the grill during the burn off process. Opening the grill during the burn off process may cause a sudden grease fire flare up that could burn your face and arms. Wait until the grill has cooled before opening.
1. Turn gas knob to HI. Close lid and allow the grill to burn for ten minutes, or until no smoke is present. Do not allow the grill to burn for more than 30 minutes.
2. Turn gas knob and supply to OFF and allow the grill to cool.
3. Wipe COOL grill with a damp cloth to remove soot.

Grill Bottom
Periodically remove cooking grids and Char-Master Briquets or flavor screen to clean the interior of the grill. Scrape off baked on residue with a putty knife or grill brush and rinse with water. Clean the bottom air holes with a small knife.

Blue Flame Burner Maintenance
Visually inspect the burner flames with each use. Five minutes after lighting, the flames should be blue and have well defined cones. **See Figure 39.** See the troubleshooting section if the flames are yellow or lift off the burner.

Stainless steel burners often turn reddish brown after use. This does not affect the performance of the grill. When cleaning the interior of the grill, remove the burners and clean with a grill brush. Wash with water and a mild detergent.

Grease Tray
Empty periodically. Replacement tray liners can be purchased at most supermarkets where disposable aluminum baking pans are displayed.

Burner (Venturi) Tubes
The burner (venturi) tubes allow air and gas to mix prior to burning, thus ensuring an efficient flame. Spiders or other small insects may build webs or nests inside the tubes obstructing air flow. Fire, or flashback, can occur, in and/or around obstructed burner (venturi) tubes and can cause damage to components beneath the grill or an unsafe condition. To reduce risk, inspections and cleaning should be performed at least twice monthly when spiders are active. If the grill has been unused for an extended period of time inspect the tubes before using the grill.

Clean burner (venturi) tubes as follows:
1. Remove the cooking grids and briquet rack (R3B only).
2. Remove the burner from the grill.
3. Use a small flexible brush to remove any debris from the burner (venturi) tube.
4. Flush with water.
5. Allow the burner (venturi) tube to dry before reinstalling.
6. Reinstall the burner, briquet rack and briquets and cooking grids.

Exterior
Clean regularly with a solution of mild detergent and hot water. Touch-up paint is available from your dealer. Broilmaster protective covers are recommended. Stainless steel components can be easily cleaned with a spray-on stainless steel cleaner found in most hardware stores.

Char-Master Briquets
If the briquets did not come clean during burn off, after cooling turn them over. The residue will burn off during warm-up for the next use.

Correct Flame Pattern **Incorrect Flame Pattern**

Figure 39

INFRARED BURNER MAINTENANCE

General Overview
Proper care, maintenance and cleaning will help ensure a long life for your grill. Periodic cleaning will help avoid accumulations of flammable grease and other debris.

Exterior
Clean regularly with a solution of mild detergent and hot water. Touch-up paint is available from your dealer. Broilmaster protective covers are recommended. Stainless steel components can be easily cleaned with a spray-on stainless steel cleaner found in most hardware stores.

Protection of Burners
The burners of your grill are designed to provide a long life of satisfactory performance. However, there are steps you must take to prevent cracking of their ceramic surfaces, which will cause the burners to malfunction. Following are the most common causes of cracks and the steps you must take to avoid them. Damage caused by failure to follow these steps is not covered by your grill warranty.

IMPACT WITH HARD OBJECTS - Never allow hard objects to strike the ceramic. Take particular care when inserting or removing the cooking grids and accessories into or from the grill. If objects such as these fall onto the ceramic, it is likely to crack the ceramic.

IMPAIRED VENTILATION OF HOT AIR FROM THE GRILL - In order for the burners to function properly, hot air created by the burners must have a way to escape the grill. If the hot air is not allowed to escape, the burners may become deprived of oxygen, causing them to backfire, especially if the burner output is set at HIGH. If this occurs repeatedly, the burners may crack. Never operate your grill with very little or no open space at the cooking surface (the cooking grids provide sufficient open space.

Examples:
- DO NOT operate the grill on "HIGH" with the hood closed.
- DO NOT use accessories in combinations that cover more than 75% of the cooking surface with solid metal.
- DO NOT cover the entire surface with aluminum foil, a large pan, etc.

WATER AND OTHER LIQUIDS - When the burners are in operation, their intense heat is normally sufficient to vaporize any drippings, marinates or sauces that contact the surface as a by-product of grilling. This does not include water thrown into the grill to douse a flame. Cold liquid contacting a hot surface in substantial amounts can cause the surface to break. Also, if the ceramic or interior of a burner becomes wet while not in use, later operation of the burner can create steam, which may produce enough pressure to crack the ceramic. In addition, repeated soaking of the ceramic will cause it to swell and expand. This expansion will create pressure on the ceramic and cause it to crack and crumble.

To prevent burner damage caused by liquids, please do the following:
- Never throw liquid into the grill to control a flare-up.
- Never expose the burners to the risk of soaking by rainfall, sprinklers or otherwise. We recommend that the grill be covered with a heavy duty vinyl cover at all times when it is not in use. Do not attempt to operate your grill in the open air while it is raining. Finally, using the grill, close the hood as soon as the burners are off so that, if it rains, the burners will not be exposed to direct rainfall while the grill is cooling.
- If standing water is in the grill (because of exposure to rainfall, etc.) examine the ceramic burner surfaces for evidence of possible water soaking. If the ceramic appears to be wet, remove the burners from the grill and turn them upside down to empty any water from the burner box. After draining all the water, place the burners indoors and allow to dry thoroughly. Also, empty any water standing in the grill's drip tray. Then, reinstall the burners. After testing for gas leaks around all fittings, resume normal use of the grill.

Cleaning
CAUTION: ALWAYS ALLOW THE GRILL TO COOL BEFORE CLEANING. DO NOT LET LIQUIDS COME IN CONTACT WITH THE BURNER SURFACE AT ANY TIME.

Grease Tray
Empty periodically. Replacement tray liners can be purchased at most supermarkets where disposable aluminum baking pans are displayed.

Cooking Grids
Burn Off
This process is much like that used in self-cleaning ovens and is most efficient when completed after each use of the grill.

Because of the high intensity of the Infrared burner, any drippings and food particles that fall onto the burner surface are immediately incinerated. However, some debris and residue may remain. To remove this residue after cooking, turn the grill on HIGH for 5-10 minutes with the hood OPEN.

Standard Cleaning
The cooking grids may also be removed and cleaned with a grill brush and soapy solution. Standard oven cleaners may be used for further cleaning. Rinse the cooking grids thoroughly with clean water before using.

Maintenance
The Broilmaster requires very little maintenance. However, a periodic inspection of orifice openings and venturi inlets to clear obstructions to gas flow is recommended.

Burner Head
To maintain the performance of the Infrared burner it is important to operate the grill on HIGH for at least 5 minutes after each use. This procedure will leave some ash on the surface of the burner head. If it accumulates in excessive amounts, it will clog the small ports in the ceramic surface. To prevent this blockage, remove the cooking grid and the burner screen, and vacuum the burner surface with a low-suction vacuum cleaner every six months, or as necessary. When completing this procedure be careful not to scrape or strike the ceramic with the suction device, which may damage the ceramic.

TROUBLESHOOTING

Although the manufacturer has attempted to ensure that your grill will operate properly and satisfactorily, sometimes problems do arise. The following troubleshooting guide lists several possible problems and their probable cause and solution.

Problem	Cause	Solution
Burner will not light.	Gas injector not inserted in venturi tube.	Realign/engage gas injector with the venturi tube.
	Clogged gas injector.	Remove gas injector from gas control assembly and clean.
	Obstruction in gas line.	For propane models, ensure gas valve on cylinder is OFF. Remove flexible hose and blow out any debris.
	Spider webs in venturi tubes.	Clean venturi tubes. See Maintenance Section.
	Misalignment of collector box and burner.	Position electrode properly. Clean collector box.
	Out of gas.	Refill LP gas cylinder. If natural model, turn on gas at source.
	Dead battery.	Replace with AA Alkaline battery.
Inadequate grill temperature.	Poor combustion.	Adjust air shutter.
	Misalignment of venturi tube and gas injector.	Realign/engage gas injector with the venturi tube.
	Inadequate gas pressure.	Contact gas supplier for assistance.
	Incorrect orifice/valve setting.	Refer to gas conversion instructions in this manual.
Flames off the burner.	Cold grill.	Preheat grill at least 5 minutes on HI with the grill lid open.
	Misalignment of burner tube and gas injector.	Realign/engage gas injector with the burner tube.
	Poor combustion.	Adjust air shutter.
	Extreme wind.	Turn or shield grill.
Yellow flames.	Air shutter improperly set.	Open air shutter.
	Spider webs in venturi tubes.	Clean venturi tubes. See Maintenance Section.
	Seasoning salts on burner.	Clean by washing burner with mild detergent.
	Oil film on burner.	Allow burner to operate on HI for 10-15 minutes.
Low heat with knob in "High" position.		Check for proper gas supply and pressure.
		Pre-heat grill for a full 15 minutes.
		If using L.P. gas, check for empty tank.
		Check for kinks in supply line.
		If only one burner appears low, clean burner, clearing ports of any obstructions.
Infrared back burner won't light.		Check the burner inlet for obstructions.
		Grill may be in a dusty area. Move to a less dusty area if possible.

Your Broilmaster® Premium Gas Grill is identified by model number, serial number, and gas type. This information is provided on a product identification label located on the grill's control panel. For your convenience, complete this section for future reference when contacting your dealer.

Model No. _____ Dealer _____

Serial No. _____ Dealer Phone No. _____

Gas Type: Propane _____ Natural _____ Date of Purchase _____

BROILMASTER®
PREMIUM GAS GRILLS

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VISIT OUR WEB SITE AT WWW.broilmaster.com
If you have a general question about our products, please e-mail us at info@empirecomfort.com.
If you have a service or repair question, please contact your dealer.